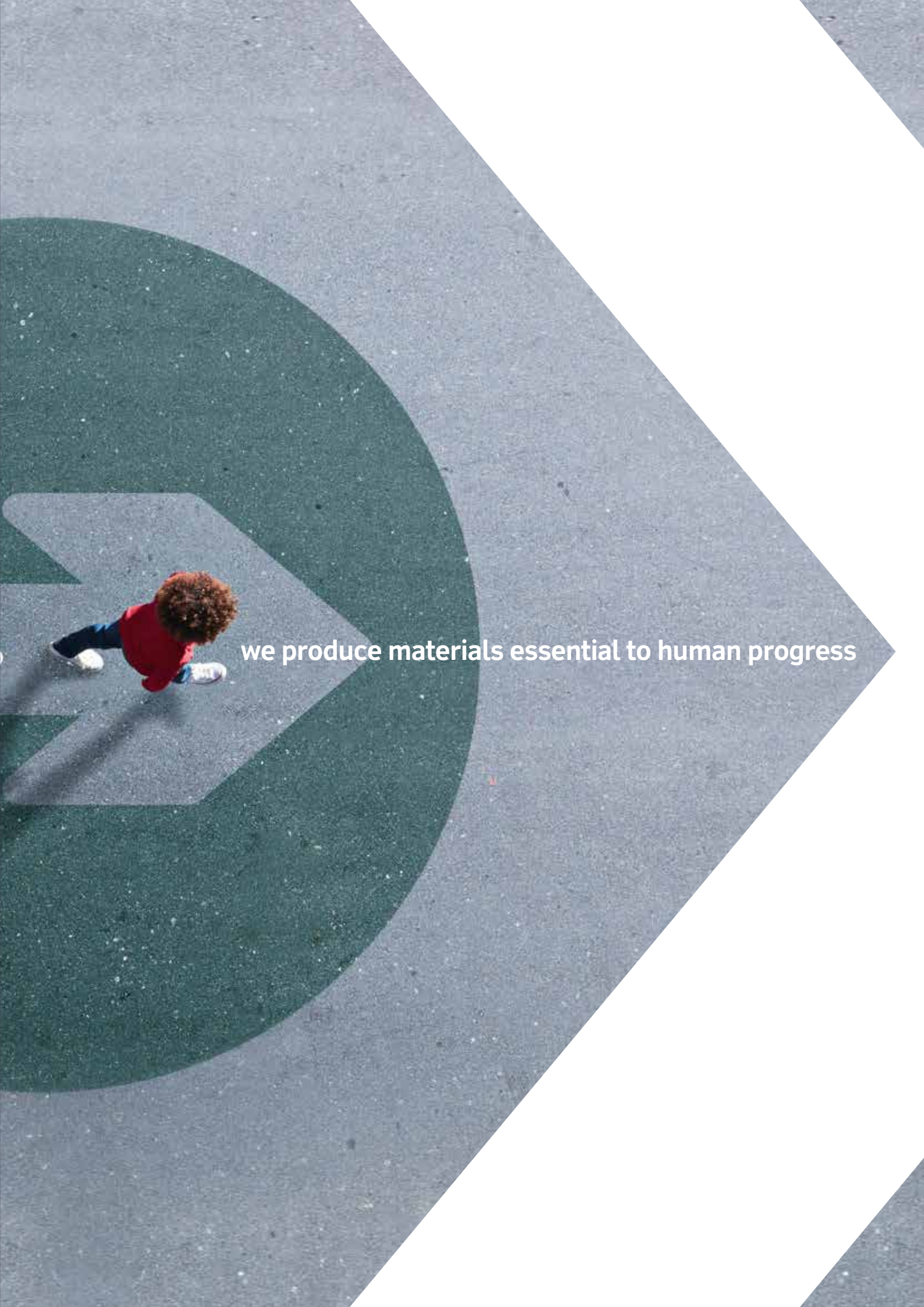




As pioneers in mining and metals,



we produce materials essential to human progress

Strategic Report

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Navigating through our Strategic Report

UK companies are required to include a strategic report within their full annual report. We produce this additional Strategic Report to provide investors with the option of receiving a document that is more concise.

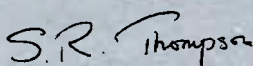
The first 109 pages of Rio Tinto's 2020 Annual Report constitute its 2020 Strategic Report. References to page numbers beyond 109 are references to pages in the full 2020 Annual Report – as indicated by this icon .

Copies of Rio Tinto's shareholder documents – the 2020 Annual Report and Strategic Report are available to view on the Group's website at riotinto.com. Shareholders may obtain a hard copy of these documents free of charge by contacting Rio Tinto's registrars, whose details are set out at the back of this document.

Please visit Rio Tinto's website to learn more about the Group's performance in 2020.

Directors' approval statement

This Strategic Report is delivered in accordance with a resolution of the Board, and has been signed on behalf of the Board by:



Simon Thompson
Chairman

22 February 2021

The Group's 2020 Strategic Report complies with Australian and UK reporting requirements.

The auditors' report on the Group's 2020 annual accounts was unqualified. Within that report, the auditors' statements under section 496 Companies Act 2006, confirming that the Strategic Report and Directors' Report are consistent with the accounts, was also unqualified.

A copy of the auditors' report on the Group's 2020 Annual report is contained on pages 312 to 327 of that document.

Reporting currency: We report in US dollars unless otherwise stated. Where specified, A\$ refers to Australian dollars and C\$ refers to Canadian dollars.

Highlights

Zero

fatalities

\$47bn

direct economic contribution

\$1bn

over five years
for climate-related projects

26%

women in senior leadership,
up 3.5% year on year with
an aim to improve

\$15.9bn

net cash generated from
operating activities

(2019: \$14.9bn)

\$9.4bn

Free cash flow

(2019: \$9.2bn)

\$9.8bn

net earnings

(2019: \$8.0bn)

\$12.4bn

Underlying earnings

(2019: \$10.4bn)

\$23.9bn

Underlying EBITDA

(2019: \$21.2bn)

\$44.6bn

consolidated sales revenues

(2019: \$43.2bn)

27%

Return on capital employed (ROCE)

(2019: 24%)



2020 at a Glance

Our business comprises a portfolio of world-class assets that generate strong cash flows through the cycle.

Group highlights

\$15.9bn

Net cash from operating activities

(2019: \$14.9bn)

110.1%

Total shareholder return (TSR)

(2019: 49.6%)

557 cents

Total dividend per share (DPS)

(2019: 443 cents)

Product groups



Iron Ore

Iron ore is the primary raw material used to make steel. Steel is strong, long-lasting and cost-efficient – making it perfect for everything from washing machines to cars, bridges and skyscrapers.

In the Pilbara region of Western Australia, we produce five iron ore products including the Pilbara Blend™, the world's most recognised brand of iron ore.

Our Dampier Salt operations in Western Australia are the world's largest exporter of seaborne salt, produced from evaporating seawater.

This quality product suite is well positioned to benefit from continued demand across China, Japan and other markets.

Gross product sales

\$27.5bn

(2019: \$24.1bn)

Underlying EBITDA

\$18.8bn

(2019: \$16.1bn)

Production (100% basis)

333.4mt iron ore

(2019: 326.7mt)

CO₂e emissions (100% basis)

3.5mt

(2019: 3.2mt)

All-injury frequency rate

0.53

(2019: 0.66)



Aluminium

Aluminium is one of the world's fastest-growing major metals. Lightweight and recyclable, it is found in everything from jet engines to electric vehicles to smartphones. Our vertically integrated aluminium portfolio spans high-quality bauxite mines to alumina refineries to smelters which, in Canada, are powered entirely by clean, renewable energy with an average position in the first decile of the cost curve.

Gross product sales

\$9.3bn

(2019: \$10.3bn)

Underlying EBITDA

\$2.2bn

(2019: \$2.3bn)

Production (our share)

56.1mt bauxite

(2019: 55.1mt)

3,180kt aluminium

(2019: 3,171kt)

CO₂e emissions (our share)

21.8mt

(2019: 21.7mt)

All-injury frequency rate

0.36

(2019: 0.46)

0.37

All-injury frequency rate (AIFR)
(2019: 0.42)

4

New Scope 3 goals

3.2%

Reduction in CO₂e, equivalent emissions
against 2018 baseline

Cu

Copper & Diamonds

Copper is essential to the transition to a low-carbon future as it plays a key role in electrification and power generation, including in renewable energy and electric vehicles. Our operations span the globe, from Mongolia to Chile to the US, and occupy various stages of the mining lifecycle. Our white and coloured diamonds are some of the world's most sought-after gems.

Gross product sales

\$5.4bn

(2019: \$5.8bn)

Underlying EBITDA

\$2.2bn

(2019: \$2.1bn)

Production (our share)

528kt mined copper

(2019: 577kt)

CO₂e emissions (our share)

2.7mt

(2019: 2.8 mt)

All-injury frequency rate

0.30

(2019: 0.29)

Ti

B

Fe

Energy & Minerals

Our Energy and Minerals product group provides materials essential to a wide variety of industries, ranging from agriculture to renewable energy and electric vehicles. We produce high-grade low impurity iron ore pellets and concentrate, titanium dioxide and borates from our operations in Africa, Canada and the US. We contribute to Rio Tinto's sustainable growth by unlocking value from our high-grade orebodies and developing new materials. By giving a second life to mining waste with by-products, we are expanding our frontiers for the increasing demand for critical minerals. We apply innovative technology and processes to deliver products that will contribute to a decarbonising and sustainable modern world.

Gross product sales

\$5.0bn

(2019: \$5.2bn)

Underlying EBITDA

\$1.6bn

(2019: \$1.8bn)

Production (our share)

1,120kt titanium dioxide slag

(2019: 1,206kt)

10.4mt iron ore pellets and concentrates

(2019: 10.5mt)

CO₂e emissions (our share)

3.6 mt

(2019: 3.8 mt)

All-injury frequency rate

0.41

(2019: 0.43)

Strategic Report

An employee at Boyne Smelters Limited in Queensland, Australia. Aluminium, found in a wide range of essential products, including hospital equipment, is made from bauxite.

Safety
is our first value

Zero

fatalities

As COVID-19 threatened lives and livelihoods, the entire company mobilised to safeguard our employees, contractors and communities, and to keep our operations running. Our success in 2020 was due, in no small part, to this remarkable effort by our entire workforce.

Our strong performance in many areas during 2020 was overshadowed by the destruction of two ancient rock shelters in the Juukan Gorge. I reiterate our unreserved apology to the Puutu Kunti Kurrama and Pinikura (PKKP) people for the destruction of the rock shelters. We are committed to learning the lessons from Juukan Gorge to ensure that the destruction of a site of such exceptional cultural significance never happens again.

Simon Thompson
Chairman



Chairman's Statement

Today, shareholders are increasingly focused not only on the financial return that they can earn on their investment, but also on how that return is made. In order to build and maintain trust in Rio Tinto, we must seek to achieve environmental and social goals alongside generating profit for our shareholders. Our purpose as a company is to produce materials essential to human progress and we are committed to fulfilling this role in a sustainable and inclusive way.

In 2020, our safety performance and our response to the COVID-19 global pandemic were a demonstration of this company at its best. However, the destruction of the rock shelters at Juukan Gorge, in Western Australia, was a breach of both our values and the trust placed in us by the Puutu Kunti Kurrama and Pinikura (PKKP) people and other Traditional Owners of the land on which we operate. In the months and years to come, we are determined to learn the lessons from Juukan Gorge, to rebuild the trust that has been lost, and to re-establish our leadership in environmental and social performance.

Our response to the pandemic

2020 was a difficult and challenging year for everyone, but I am proud of Rio Tinto's response to the global pandemic. As COVID-19 threatened lives and livelihoods around the world, the entire company mobilised to safeguard our employees, contractors and local communities, and to keep our operations running safely and smoothly.

At our Pilbara iron ore operations, for example, within a matter of days, thousands of employees adapted to new rosters and changed fly-in, fly-out travel schedules. We secured additional charter flights and redesigned procedures at our camps to maintain social distancing and we instituted rapid health screening at airports across Western Australia. Around the world, we also took measures to reduce the risk of transmission from our employees to the remote and vulnerable communities near our operations. The success of Rio Tinto in 2020 was due, in no small part, to this remarkable effort by our entire workforce.

Safety

Despite all these changes, and the uncertainty created by the pandemic, we achieved a second consecutive year with zero fatalities. This remarkable achievement is a testament to the hard work and dedication of thousands of employees and contractors, every day, on every shift. But we need to do even better in our overall safety performance and will not be satisfied until we have eliminated all work-related injuries.

Chairman's Statement

continued

Total dividends declared to shareholders

\$9bn

Our direct economic contribution in 2020

\$47bn

\$1bn

over five years on climate-related projects

Financial performance and economic contribution

As a result of the efforts of our 45,000¹ employees in 35 countries to keep our operations running safely, the Group performed strongly in 2020. The strength and resilience of our business enabled us to protect thousands of jobs across our supply chain, and continue to pay taxes and royalties to governments and dividends to pension funds, when many other companies were forced to cut back.

We recorded underlying earnings of \$12.4 billion (2019: \$10.4 billion) and free cash flow of \$9.4 billion (2019: \$9.2 billion) in 2020. Our balance sheet remains exceptionally strong, with net debt at year-end of \$0.7 billion. These robust results reflect strong demand in our major markets, especially China, with iron ore prices, in particular, supported by supply disruptions across the industry.

As many of our host governments spent record sums to support their people and economies during the pandemic, our direct economic contribution, including payments to employees, suppliers, governments and shareholders, amounted to \$47 billion. In 2020, the Rio Tinto Group paid more than \$8 billion in taxes and royalties globally, including Australia where we are one of the largest taxpayers, contributing more than \$6.5 billion in taxes and royalties.

In recognition of this strong financial performance, the Board is recommending a final dividend of 309 US cents per share (2019: 231 US cents per share) and a special dividend of 93 US cents per share, taking total dividends declared this year to \$9 billion.

The destruction of the Juukan Gorge rock shelters

These achievements were overshadowed by the destruction of two ancient rock shelters in the Juukan Gorge, at the Brockman 4 iron ore mine in Western Australia, in May 2020, which should not have happened.

I would like to reiterate our unreserved apology to the Puutu Kunti Kurrama and Pinikura (PKKP) people for the destruction of the rock shelters.

The loss of the Juukan Gorge rock shelters has also impacted many others, in Australia and beyond, and within our company it has left many of our employees, including our Indigenous Australian colleagues, feeling deeply shocked and ashamed.

Following publication of the Board Review of the events leading up to the destruction of the rock shelters, and consultations with shareholders in Australia, Europe and North America, our Chief Executive, the Chief Executive of Iron Ore and the Group Executive, Corporate Relations, have left the company by mutual agreement.

The Board and senior leadership team have taken decisive action to implement the recommendations set out in the Board Review and the Interim Report of the Parliamentary Inquiry. These include measures to ensure that the destruction of a site of such exceptional cultural significance never happens again; to re-confirm that we have recently consulted with Traditional Owners for potential impacts; and to begin the modernisation process of our agreements with the Traditional Owners in Western Australia to increase transparency and redress the imbalance of power that existed in our older agreements.

We are also reinvigorating our cultural awareness training, have stepped up our investment in career development for Indigenous Australians and taken numerous other measures to ensure that Indigenous Australians have a stronger voice, not only in our host communities, but also within Rio Tinto. In parallel with these internal changes, we have continued to engage with the Government of Western Australia in relation to reforming the Aboriginal Heritage Act of 1972.

1. This is the average employee headcount during 2020, including contractors.

In November 2020, my fellow director Megan Clark (Chair of our Sustainability Committee) and I visited the Juukan Gorge with the PKKP people. It was my first opportunity to apologise in person to the PKKP people for the destruction of the rock shelters, and to see and feel their sadness and pain first-hand. Megan and I subsequently attended a joint meeting of the PKKP and Rio Tinto Boards in Perth, where we discussed the steps that we must take to rebuild trust and to strengthen our partnership, as well as progress with the remedy process.

Separately, Megan and I also met elders from nine of the ten Traditional Owners of the lands where we operate in Western Australia. The Traditional Owners expressed their sadness and anger at the destruction of the Juukan Gorge rock shelters, but they also expressed their hopes for a more equal and respectful relationship with Rio Tinto in the future.

Traditional Owners recognise the social and economic benefits that mining brings to their communities, but they demand a relationship with our company that respects local customs and traditions and recognises their obligation to preserve their unique culture for future generations. It is our responsibility to make sure this happens both now and into the future, and I know that this determination is shared throughout our organisation.

The appointment of Jakob Stausholm as Chief Executive

I am delighted to welcome Jakob Stausholm as our new Chief Executive with effect from 1 January 2021. Since joining Rio Tinto as an executive director and Chief Financial Officer in 2018, Jakob has played a key role in strategy development and performance management, allocating capital with discipline and helping to deliver record shareholder returns. Jakob's blend of strategic and commercial expertise, and his collaborative leadership style, strong values and commitment to sustainable development, make him the ideal choice for our next Chief Executive.

A further advantage is that, as an internal candidate, he will be able to apply his existing knowledge and understanding of the Group to some of the key investment and growth decisions arising in the shorter term.

Other Board changes

During 2020, we also welcomed three new non-executive directors – Hinda Gharbi, Jennifer Nason and Ngaire Woods – and the Board has already benefited from their insights and expertise in natural resources, finance, technology, governance, public policy, diversity and inclusion. At the end of the year, we bid farewell to David Constable, who steps down to assume the role of Chief Executive Officer at Fluor Corporation. A search for his replacement is underway as we seek to strengthen representation on the Board from our key countries of operation.

Engagement with stakeholders

Despite the limitations imposed by the pandemic, the Board engaged extensively with stakeholders throughout 2020, including meetings with shareholders, Traditional Owners, Indigenous leaders, civil society and governments. During the year, I held one-on-one meetings with over 70 key shareholders. Together with the Board Committee chairs, we also arranged two governance-focused engagements in the UK and Australia hosted by the Investor Forum and the Australian Council of Superannuation Investors. Our annual supplier and customer survey showed improved perceptions of our performance, as well as a number of areas requiring

The strength and resilience of our business enabled us to protect thousands of jobs across our supply chain, and continue to pay taxes and royalties to governments and dividends to pension funds, when many other companies were forced to cut back.

further attention. We also held a 'virtual roundtable' with civil society organisations, where the discussions focused on our response to Juukan Gorge, climate change and continuing concerns about industry lobbying.

In the aftermath of Juukan Gorge, I held a virtual town hall with senior managers worldwide and a real town hall with employees in Perth. Board members also held a series of meetings with smaller groups of leaders around the world, and made a 'virtual site visit' to Oyu Tolgoi, during which we were able to speak to our employees and partners in Mongolia.

In these meetings, our employees spoke openly and honestly about their pride in the company's response to COVID-19 and their deep sense of shock at the destruction of the Juukan Gorge rock shelters. A key topic for discussion was how we can make the work culture at Rio Tinto more diverse and inclusive, to ensure that everyone feels empowered to speak up if something does not feel right. This will be a strong area of focus for the Board and leadership team in 2021.

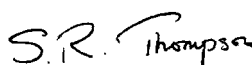
Restoring our reputation as a purpose-led business

As Jakob takes over as Chief Executive, he takes charge of a company with outstanding people, world class assets, an exceptionally strong financial position, a clear climate change strategy and a robust safety culture. But he also inherits a company that urgently needs to restore trust with host communities and in our management of cultural heritage.

Our purpose is to produce materials essential to human progress. We are committed to doing so efficiently, effectively and sustainably, creating value for all stakeholders while safeguarding the environment and respecting our host countries and communities.

Thank you

Let me end by thanking the leadership team and the many thousands of Rio Tinto employees, contractors and partners who delivered once again for our company and its shareholders during one of the most difficult and challenging years in recent memory.



Simon Thompson
Chairman

22 February 2021

Juukan Gorge

A breach of our values

We apologise unreservedly to the Puutu Kunti Kurrama and Pinikura (PKKP) people, and to people across Australia and beyond, for the destruction of Juukan Gorge.

In allowing the destruction of Juukan Gorge to occur, we fell far short of our values as a company and breached the trust placed in us by the Traditional Owners of the lands on which we operate. It is our collective responsibility to ensure that the destruction of a site of such exceptional cultural significance never happens again, to earn back the trust that has been lost and to re-establish our leadership in communities and social performance.

A nearly two-decade-long timeline

Our relationship with the PKKP people extends over more than 17 years, with initial agreements covering our operations on PKKP land at Brockman 4 signed in 2006 and 2011. The decision to destroy the rock shelters was taken nearly eight years ago but, because mining is such a long-cycle industry, that decision was not actually implemented until 2020.

Internal and external reviews of the events leading to the blasting of the rock shelters at Juukan Gorge have highlighted deficiencies in how our partnership with the PKKP people was managed, a lack of integration of our heritage management with our front-line operational teams, and a work culture that was too focused on business performance and not enough on building and maintaining relationships with Traditional Owners.

The archaeological and ethnographic reports received in 2013/14 should have triggered an internal review of the implications of this material new information for the mine development plans. Such a review did not take place. Following completion of the archaeological surveys and other mitigation measures agreed with the PKKP people in 2014, the site was reclassified as 'cleared' for mining and removed from relevant risk registers. As a consequence, knowledge and awareness of the location and significance of the site was progressively lost. Further opportunities to revise the mine plan were missed in 2018, when the final archaeological report was received, and again during 2019/20.

Remedy process

We are engaging with the PKKP people to determine an appropriate remedy process for the destruction of the rock shelters. This includes providing funding to support their submission to the Joint Standing Committee on Northern Australia (the Parliamentary Inquiry) and their effective participation in discussions about how we rebuild and strengthen our partnership and provide a remedy that respects the wishes of these Traditional Owners.

A moratorium has been agreed on mining in the Juukan Gorge area and work is underway on a remediation plan. In partnership with the PKKP people, we are focusing on understanding how, through the remediation of the Gorge, we can re-establish a sense of place that recognises the exceptional cultural significance and connection of the Juukan Gorge area to past, current, and future PKKP people as well as their aspirations for future use and interaction with the place.

Remediation of the Gorge will be a challenging project. While the Juukan 2 rock shelter is likely to be irreparably damaged, Juukan 1 appears to be largely intact. Both shelters will be restored to the fullest extent possible and, if it is safe, access will be re-established. Other parts of the Gorge, including the Snake pool, which were not impacted by the blast, will remain protected and its connection to the Juukan 1 and 2 rock shelters will be re-established.

Artefacts and other materials salvaged from the rock shelters during archaeological excavations have already been moved to a purpose-built conservation facility. Discussions are in progress with the PKKP people on the provision of an appropriate, permanent 'keeping place'.

For a more detailed summary of our response to the recommendations issued by the Parliamentary Inquiry, please visit riotinto.com. Please refer to pages 114-115 ^{AB} to learn more about the Board review of the events that led to Juukan Gorge.

Ensuring this never happens again

We have taken decisive action to strengthen our processes and approach to cultural heritage.

Governance

- **Integrated Heritage Management Process (IHMP):** The most urgent task was to ensure that we do not have other sites of exceptional cultural significance within our existing mine plans. We are currently completing the first phase of a new IHMP, which is being rolled out at our Pilbara iron ore business. The lessons from the IHMP will subsequently be implemented across our business globally while taking into account local circumstances. In the Pilbara, the IHMP involves a systematic review of all the heritage sites that we manage starting with those that may be impacted by our activities over the next two years. So far, we have reviewed over 1,000 sites and ranked each one by: (i) cultural significance (which is informed through consultation with the Traditional Owners of the land on which we operate); (ii) our re-confirmation that we have recently consulted with Traditional Owners for potential impacts; and (iii) the materiality of the impact. Where there is any doubt, we have reclassified the relevant sites from 'cleared' for mining back to 'protected' as a precautionary measure, pending further consultation with the Traditional Owners.
- **Empowering operational management:** We have increased the responsibility of our product groups for Communities and Social Performance (CSP), partnerships and engagement. This means that line managers within the product groups directly own the relationships with host communities, including Indigenous peoples. All community and heritage management professionals at our operations now report to product group line management.
- **Improved governance and Board oversight:** Any direct impacts to sites categorised as being of 'high' or 'very high' significance under the new Integrated Heritage Management Process must also be approved by the heritage sub-committee of the Executive Committee

- or the Board, as appropriate. The Sustainability Committee of the Board will oversee the implementation of the recommendations arising from the Board Review and the Parliamentary Inquiry and will ensure that lessons learned are applied, as appropriate to our operations worldwide. The Audit Committee of the Board will ensure that relevant lessons from Juukan Gorge are also applied to all other risk management processes, particularly those, like Juukan Gorge, where there is a significant lag between decision and implementation. Please refer to the risk management and internal control section on page 115 [AR](#) of this report for more information.
- **Strengthened assurance:** Second line assurance will be provided by a new stand-alone CSP Area of Expertise (AoE), reporting to Mark Davies, our Group Executive, Safety, Technical and Projects, a member of our Executive Committee, based in Brisbane. The CSP AoE will ensure conformance with Group policies, standards and procedures, including the new Integrated Heritage Management Process, and will share best practice worldwide. The new CSP AoE sits alongside the existing health, safety, environment (HSE) function. This will help to ensure that communities and heritage risk processes are aligned with our existing robust health, safety and environmental systems. The AoE will also oversee internal assessments and reviews, including deep dives and operational reviews in conjunction with experts from our Group Risk function. The framework includes a rigorous annual self-assessment and certification of impacts and risks. Internal Audit will provide a third line of defence.
 - **Modernisation of agreements with Traditional Owners:** We have written to Traditional Owners advising them that we will not enforce any clauses that restrict Traditional Owners from raising concerns about cultural heritage matters or that restrict them from applying for statutory protection of any cultural heritage sites. We have also offered to modernise agreements in the Pilbara where Traditional Owners have indicated that the current agreements have not met the aspirations of partnership we mutually sought at the outset. We will seek to agree an appropriate mechanism in our revised agreements so that there is a clear pathway for resolution of any differences of view that may emerge. We will also continue to work with Traditional Owners to increase the economic benefits that flow to their communities from employment, skills, training and business development.
 - **Increasing transparency:** Subject to the consent of Traditional Owners in Australia, we intend to make our new agreements public. We intend to engage with the Traditional Owners on how independent input can be sought to support this modernisation process.
 - **Indigenous Advisory Group:** We are consulting with Traditional Owners to create an Indigenous Advisory Group (IAG), intended to bring Indigenous voices into the senior leadership and oversight of the business in Australia. An IAG would provide direct input on our Indigenous strategy in Australia and coaching, mentoring and advice to senior leadership and, where possible, to the Board.

Work culture and relationships

Making sure that we have the right work culture and relationships will require sustained effort over many years. We are not underestimating the time it will take to build a more inclusive work culture that better recognises and celebrates Indigenous partnership in our business.

- **Increasing awareness and understanding of community and heritage issues:** Operational leadership will receive training and coaching to ensure that they understand their new responsibilities and have access to the subject matter experts and information they need to support good decision-making. They will be encouraged to invest time in building relationships with Traditional Owners to ensure that they are aware of any concerns, before they escalate into major issues. To support them, we are reinvigorating our cultural awareness training, with all frontline staff, including the Board, undertaking both e-learning and face to face training with Indigenous Australians.
- **Fostering Australian Indigenous leadership:** In order to increase the diversity of our leadership team, we have appointed a Chief Advisor, Indigenous Affairs, reporting directly to our Chief Executive Australia, and committed a US\$50 million investment to advance employment opportunities and accelerate the career development of Indigenous Australians in our business. The Chief Advisor, Indigenous Affairs will also assist and coach operational management in the renegotiation of our agreements with Traditional Owners.
- **Building a more inclusive work culture:** It is clear that we need to create a more inclusive, more diverse work culture, where people feel empowered to challenge decisions – a priority of the management team and our new Chief Executive.

External engagement

In parallel with these internal changes, we continue to contribute to the reform of the Aboriginal Heritage Act 1972 (WA), making clear our support for a right of appeal by Traditional Owners in relation to approvals to impact cultural heritage sites on their Country. We are also engaging with the Chamber of Minerals and Energy in Western Australia, the Minerals Council of Australia and the ICMM, sharing the lessons that we have learned from Juukan Gorge.

Everything I know about this company – the talent and commitment of our employees, the quality of our assets and our contribution to society – excites me and makes me optimistic about the future. We have the strength and capabilities, built over our 148-year history, to restore our leadership in cultural heritage and communities and social performance, and we will emerge a better company for the lessons we have learned in 2020.

Jakob Stausholm
Chief Executive



Chief Executive's Statement

2020 was, in many ways, an extraordinary year – for our company, and the world at large – and one in which we saw the best of Rio Tinto, as well as areas in which we must, and will, improve.

To that end, after the events at Juukan Gorge, we have been working to restore trust with the Puutu Kunti Kurrama and Pinikura (PKKP) people. Important progress has been made following a meeting between the PKKP and Rio Tinto boards, as articulated in the December joint statement at riotinto.com/juukangorge. We are also developing additional measures to strengthen our partnerships with Traditional Owners in Australia, including a commitment to modernise and improve agreements in the Pilbara, home to our iron ore business. More broadly, we are determined to improve our approach to communities and stakeholders globally, in part by embedding a more inclusive approach that strengthens our overall thinking, decision making and performance.

It was an honour to have been selected by our Board of Directors to lead Rio Tinto as its Chief Executive. Everything I know about this company – the talent and commitment of our employees, the quality of our assets and our contribution to society – excites me and makes me optimistic about the future. We have the strength and capabilities, built over our 148-year history, to restore our leadership in cultural heritage and communities and social performance, and we will emerge a better company for the lessons we have learned in 2020.

Chief Executive's Statement

continued

A strong safety culture

I believe a company's culture is the foundation from which its performance is built; our strong safety culture allowed us to deliver a second year with zero fatalities. While we cannot stop improving, this is an important milestone – one never achieved until 2019. I would like to personally thank the many thousands of employees, contractors and partners whose dedication and commitment made it possible. But there is more to do. While our all-injury frequency rate (AIFR) of 0.37, is considered industry-leading, we had too many serious safety incidents. Our focus in 2021 will therefore be on further maturing our safety system, which will lead to overall improvements in our safety performance and, at the same time, improve our operations.

I am exceptionally proud of the way we responded, as one, to the global COVID-19 pandemic: our goal was to keep our employees, contractors and communities safe and healthy while keeping our operations running and continuing to deliver the products our customers need. At our Pilbara iron ore business, for example, in a matter of days, we redesigned rosters and changed our fly-in, fly-out (FIFO) travel schedules for thousands of employees. We secured additional charter flights, ensuring compliance with social distancing guidelines by spacing workers appropriately on planes, and in airports. With the implementation of rapid screening at airports in Western Australia for our FIFO workforce, we were one of the first companies globally to implement large scale rapid screening.

Many of our employees made significant sacrifices this year – often being away from families and loved ones for extended periods of time – to allow our company to continue to perform during the pandemic. In Mongolia, for example, some of our employees took what they thought would be a domestic, overnight trip but, due to in-country pandemic travel restrictions, were instead required to spend 21 days in quarantine and 14 days in self-isolation. The pandemic has required incredible resilience, and our employees have delivered.

I also want to thank our host governments, which actively supported us and allowed our operations to keep running – and in doing so, allowed their citizens and economies to benefit.

Juukan Gorge: a breach of our values

One of the reasons I was excited to join Rio Tinto, two years ago, was our ambition on sustainability, our values, our history – and our purpose: to produce materials essential to human progress. We know we must fulfil this purpose in way that is in line with our values.

In Australia, in 1995, our company was the first mining company to embrace Native Title – the recognition of Indigenous people's traditional land and water rights and interests. Our destruction of the 46,000-year-old rockshelters at Juukan Gorge, in Western Australia, was a breach of that leadership and our values. Alongside our Board, management team and employees, I extend my deep apologies to the Puutu Kunti Kurrama and Pinikura (PKKP) people. We are determined to listen, learn and change, and to ensure that cultural heritage sites of exceptional significance, like the Juukan Gorge rock shelters, are never again destroyed. We must earn the right to become a trusted partner once more for Traditional Owners, host communities, governments and other stakeholders. Please refer to pages 10-11 to learn more about the actions we are taking.

On a more personal note, the events at Juukan Gorge have taken their toll on many of us. Many of our employees are disappointed and feel let down. I am also sorry for this. We are working hard to heal and rebuild our relationships, credibility and reputation, and I know this will take time and effort. I believe we all have a role to play and, together, we will learn.

One thing we must do more is put ourselves in others' shoes – to better understand their views, improve the way we do things, and make this a better, more caring company, and one in tune with the world we serve. This culture must be actively practised and promoted by our leaders. It needs to be felt by our employees. And it needs to be closely and regularly monitored by our Executive Committee and Board. This is one of my top priorities.

A strong financial performance

We are proud that, despite exceptionally challenging circumstances, we delivered a resilient operating performance this year that enabled strong financial results: underlying earnings of \$12.4 billion, underlying EBITDA of \$23.9 billion and free cash flow of \$9.4 billion. We recognise these strong results are driven by the current pricing environment across a number of our commodities, particularly iron ore; nevertheless, our ability to keep operations running amidst a global pandemic was also a critical factor.

Net debt further reduced to \$0.7 billion (2019: \$3.7 billion), underpinning an already strong balance sheet providing both resilience and optionality. As a result, the Board has recommended a final ordinary dividend of 309 US cents per share and a special dividend of 93 US cents per share, resulting in total shareholder returns declared this year of \$9 billion.

Sustainability in sharp focus

We are working hard to strengthen our cultural heritage processes, including placing accountability for our relationships with Traditional Owners with our operational leaders. We are also investing \$50 million to increase and nurture Indigenous leadership across our operations in Australia.

We made progress across other parts of our business as well. In December, for example, the Iron Ore Company of Canada signed a Reconciliation and Collaboration Agreement with the Innu communities of Uashat mak Mani-utenam and Matimekush-Lac John, re-confirming the long-term partnership between the company and the two communities over the coming decades.

We consider climate change the key challenge of our generation, and have pledged to address our own emissions, and those of our value chain. Last year, we set Scope 1 and 2 emissions targets: to reduce our absolute emissions by 15% by 2030 and emissions intensity by 30% (from 2018 levels). These targets are supported by our commitment to spend approximately \$1 billion on climate-related projects from 2020-24.

This year, we set new Scope 3 emissions reduction goals, focused mostly on our contribution to the development and deployment of low-carbon technologies, as well as new goals and targets related to emissions from shipping our products: we will work with customers on steel decarbonisation pathways and invest in technologies that could deliver at least a 30% reduction in steelmaking carbon intensity from 2030. We will work with our partners to develop breakthrough technologies with the potential to deliver carbon neutral steelmaking pathways by 2050. We will continue to work to scale up breakthrough technology enabling the production of zero-carbon aluminium. And we will develop programmes to meet our new ambition to reach, by 2050, net zero emissions from the shipping of our products.

Underlying earnings

\$12.4bn**Zero**

fatalities in 2020

Free cash flow

\$9.4bn

Accordingly, this year we committed to invest \$10 million in our partnership with China Baowu Steel Group and Tsinghua University, also in China, to help address the steel industry's carbon footprint. This investment will fund the joint establishment of a Low Carbon Raw Materials Preparation R&D Centre, which will initially prioritise developing lower carbon ore preparation processes.

We also signed a memorandum of understanding with Nippon Steel Corporation, in Japan, to jointly explore a breadth of technologies to decarbonise the entire steel value chain from iron ore mining to steelmaking. Please refer to our climate change report, available on our website, to learn more about our approach to climate change and our progress against targets.

With respect to our products, our copper joined our aluminium this year in being third-party-certified as responsible: metal from both the Kennecott and Oyu Tolgoi mines has been awarded the prestigious Copper Mark certification.

As detailed in the sustainability section of this report, we are also working to strengthen other aspects of our work – from biodiversity to human rights, communities to water. This too, is a personal priority of mine; we plan to report on our progress regularly and transparently.

A look forward

In early 2021, I announced our new Executive Committee, which will help deliver strong safety and operational performance and make our company more resilient, an even stronger performer and employer and a trusted partner for host communities, governments and other stakeholders. This newly-formed Executive Committee is referenced on pages 118-119 ⁴⁰ of this report. I'd like to take this opportunity to congratulate the team on their new roles. I would also like to sincerely thank Vera Kirikova, who will leave Rio Tinto in early 2021, for her significant contributions to our company over many years.

As we look to the months and years ahead, we know we have a lot of hard work ahead of us. Still, we can look forward to the future of a company that is today as essential to human progress as at any time in its history. Our operations are safe, efficient and well-run. Our customers are reliably served with high-quality products. Our balance sheet is strong, and our employees have proven they can succeed even in difficult conditions. All of these things make Rio Tinto well-placed to continue to generate superior returns for our shareholders, invest in sustaining, innovating and growing our business and continue to pay taxes and royalties to host communities and governments – all while creating jobs and partnering with local businesses.

But none of this will be possible without the dedication and hard work of our many thousands of employees and contractors. To them, to host governments and communities, our customers and our many partners, all of whom make our success possible, I say – thank you.

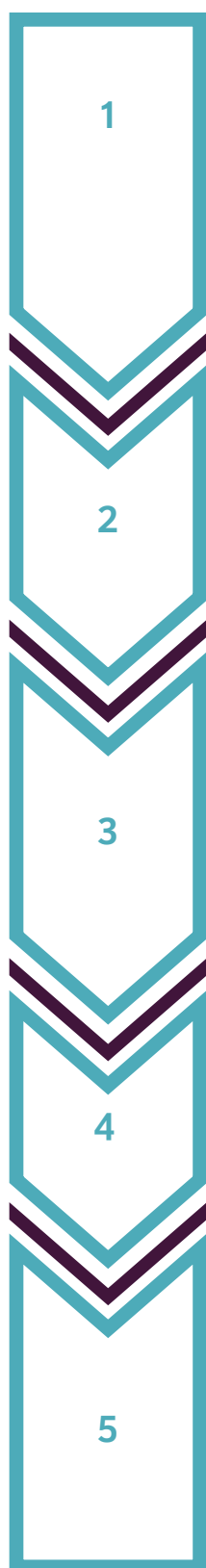


Jakob Stausholm
Chief Executive

22 February 2021

Our Business Model

Our ability to create value is underpinned by the quality of our assets, the capability of our people, our operational and sustainability performance, innovative partnerships and disciplined capital allocation.



Explore and evaluate

We use some of the most advanced exploration technologies in the world to find potential new sources of minerals and metals. We consider new commodities and products with an understanding of customers' and communities' needs. We are also mindful of our potential future social and environmental impact as well as the diversity and balance of our portfolio.

Develop and innovate

We assess each potential operation with a focus on risk, potential returns, and long-term value and sustainability. Once we have approved an investment, we design and build each operation, informed by input from those stakeholders most affected. We aim to develop every potential site to achieve optimal, long-term productivity while minimising risks.

We work in partnership with a growing network of stakeholders – governments, communities, customers and suppliers – who help expand our thinking, understanding, capabilities and, ultimately, our ability to deliver mutual benefit.

Mine and process

A safe site is a productive site, and advanced technologies are playing a more important role in how we achieve both. We share best practices across our assets to create safe, environmentally responsible working practices and a high-performing culture that targets production at lower costs. At the same time, our operations aim to benefit local economies by contributing jobs, taxes and royalties, contracts with local businesses, and social and community investment. We also support the economic diversification of regions where we are based, in alignment with national and local government plans, ensuring host communities can thrive long after our operations close. Our ambition is for our operations to reach net zero carbon emissions by 2050.

By understanding and respecting our business partners, employees, communities and the environment, we can create sustainable value for all our stakeholders.

Market and deliver

Our minerals and metals are essential to the transition to a low-carbon future and are used in a vast array of everyday products – from cars to coffee pods to smartphones. Our commercial team ensures that we align our products with market and customer needs. And our network of rail, ports and ships means that we can control end-to-end logistics to deliver our products safely, efficiently and reliably.

Repurpose and renew

We aim to design and run our assets to create a positive legacy once our mining activity concludes. We engage stakeholders of our sites nearing closure – including Indigenous peoples, government, employees and host communities – and actively involve them in planning.

Applying this approach could entail rehabilitating the land for a nature reserve, for example, or repurposing it for light industrial use. Each of our sites has rehabilitation plans that we review every year. We see this long-term approach – planning and operating with the future in mind – as integral to running a safe, responsible and profitable business.

Disciplined capital allocation

Our business is underpinned by a disciplined approach to capital allocation; we strive to use every dollar prudently. Today, our balance sheet is a key strength, providing a resilient platform for strong and consistent shareholder returns, as well as enabling us to invest throughout the commodity cycle.

Our Values

Our values reflect our commitment to the safety and wellbeing of our employees, the integrity of our business and supply chain, and respect for the environment and host communities.

Safety

Caring for human life and wellbeing above everything else

We make the safety and wellbeing of our employees, contractors and communities our number one priority. Always. Safely looking after the environment is an essential part of our care for future generations.

Teamwork

Collaborating for success

We work together with colleagues, partners and communities globally to deliver the products our customers need. We learn from each other to improve our performance and achieve success.

Respect

Fostering inclusion and embracing diversity

We recognise and respect diverse cultures, communities and points of view. We treat each other with fairness and dignity to make the most of everyone's contributions.

Integrity

Having the courage and commitment to do the right thing

We do the right thing, even when this is challenging. We take ownership of what we do and say. And we are honest and clear with each other, and with everyone we work with. This helps us to build trust.

Excellence

Being the best we can be for superior performance

We challenge ourselves and others to create lasting value and achieve high performance. We adopt a pioneering mindset and aim to do better every day.

Our Culture

We define culture as the system of beliefs and values that guides our behaviours across our diverse organisation. Our culture helped us achieve zero fatalities for two years running, and it underpins our ability to innovate and deliver high-quality products to our customers – reliably – even through a global pandemic.

But we know that aspects of our culture have let us, and our many stakeholders, down – and these aspects must be improved. The Board Review of the destruction of the rock shelters at Juukan Gorge, published in August, made clear that parts of our business lack connectedness in organisational structures, decision-making, openness and depth of engagement with Traditional Owners. They also have rigid processes and systems, constrained resourcing of key areas and difficulty escalating unresolved issues. None of these is aligned with the values we espouse or the standards we set for ourselves.

We are therefore making changes to our structure, to the way we interact with each other, the way we run certain processes, make decisions and allocate funds and time, and to elevate our approach to social performance, including respect for cultural heritage, to the same level as health, safety and environment. The choices we are making in these areas seek to both reflect and embed the values we uphold.

We will continue to work across the organisation to ensure our values are reflected in the behaviours we demonstrate – every shift, every day. We are also making an investment in developing our leaders' cultural awareness, through training programmes and diversity in leadership, and their ability to engage respectfully and effectively with Traditional Owners and other First Nations groups. And, as this company begins its next chapter, our management team is committed to re-setting and evolving the culture of our nearly-150-year-old company.

Our Stakeholders

Our business touches the lives and livelihoods of many people around the world. We recognise our responsibility to listen to – and hear – their views and take account of their interests.

Employees

This year, our employees faced unique challenges, from working through the COVID-19 pandemic to the sober reflection required by the global movements for social justice and in the aftermath of Juukan Gorge.

To understand employees' views on how to make our business better, we held virtual focus groups with almost 1,000 people from our sites and offices. Sessions were set aside specifically for Indigenous employees, employees of Asian heritage, Black employees, female employees and LGBTI+ employees. We heard our employees' appreciation of our response to COVID-19, their disappointment with the company on Juukan Gorge – and their views on many other topics, ranging from work culture, inclusion and diversity, the desired qualities of the new Chief Executive and the importance of sustainability. These sessions were supported by a series of engagements held in November by the Chairman and some of the non-executive directors.

In our most recent employee survey, conducted in November, we saw that, despite a year that tested employees in many ways, we maintained a high level of engagement overall. For the second time in a row, our employee net promoter score (eNPS) is in positive territory and currently sits at +5, one point higher than last year and the highest since we began our survey in 2016. And our employee satisfaction (eSAT) and recommend scores are also at their highest, each moving up a point to 73 and 72, respectively.

It is clear we have work to do. Our current priorities include improving overall safety performance and health, particularly during COVID-19 restrictions; transforming our culture to make it more inclusive and welcoming of diverse and/or dissenting perspectives, including women and Indigenous voices; continuing to offer competitive pay and benefits and ensuring a reasonable work-life balance, including a focus on strengthening mental health.

Communities

Communities are the places where we operate, where we live, and work, and call home – from the Pilbara, Western Australia, to KwaZulu-Natal, South Africa, to Saguenay–Lac-Saint-Jean, Quebec, Canada. But more than that, communities are made up of people – employees, Indigenous peoples, suppliers and neighbours – with whom we strive to build long-term, positive partnerships. Our strength is built upon their strength.

We recognise that, in parts of our business, we have work to do to meet our own standards on open, transparent engagement. We continue to strive to engage consistently and honestly with communities on a number of issues: from jobs and local procurement to the impact of our operations on the local environment.

This year, we established a communities and social performance (CSP) Area of Expertise (AoE), which will deliver a more rigorous assurance framework across our operations and elevate communities risk processes to align with our health and safety systems. We also changed the way we structure our global CSP teams, so that product group and operational leaders directly own relationships with their host communities, including Indigenous peoples. We have taken decisive action to strengthen our processes and approach to cultural heritage. We are currently completing the first phase of a new Integrated Heritage Management Process (IHMP), which is being rolled out at our Pilbara iron ore business. The lessons from the IHMP will subsequently be implemented across our business globally while taking into account local circumstances.

Civil society

Civil society organisations, whether local or global, play an important role in our society and in the governance of the world's natural resources. We believe that preventing and addressing the world's many complex, multifaceted environmental, social and governance challenges, such as climate change, human rights violations and bribery and corruption, can only be achieved through genuine dialogue and engagement with civil society and other stakeholders.

As a result, we regularly engage civil society organisations and, although we acknowledge instances in which our opinions may differ, we genuinely respect their views and the role they play in communities and in our business. Since 2018, we have held annual civil society roundtables to listen, learn and understand how we can improve. In 2020, we partnered with many organisations to help our communities affected by the COVID-19 pandemic and discussed matters of cultural heritage with many civil society organisations.

Governments

Governments – federal, state and provincial, and local – are also critical stakeholders for our business. We regularly engage officials at all three levels on matters from how we explore, mine and process ore, to conditions of land tenure, and health, safety and environmental requirements, as well as how we operate as a company in relation to securities, taxation, intellectual property, competition and foreign investment, provisions to protect data privacy, conditions of trade and export and infrastructure access.

A key item of discussion is the economic contribution our business makes to governments around the world: a decade ago, we were the first company in our industry to disclose our payments to governments in detail, and we have been reporting on our taxes and royalties paid, and our economic contribution, in increasing detail ever since.

Over the past ten years we have paid more than \$71 billion in taxes and royalties globally; more than 75%, or \$54 billion, was paid in Australia. In 2020, the Rio Tinto Group paid more than \$8 billion in taxes and royalties globally. In Australia, where we are one of the largest taxpayers, we contributed more than \$6.5 billion in taxes and royalties.

This is important because our businesses and the funds we provide to governments and communities support the basic infrastructure of society – bridges and roads, schools and hospitals – as well as other local development priorities, like job creation and skills training. This is one, very important way we fulfil our purpose: to produce materials essential to human progress. Being transparent about where these payments go helps our stakeholders better understand how these funds may be used to deliver economic and social benefit through our business.

At the global level, we also engage international state-based organisations from the World Bank and the International Finance Corporation to the United Nations to the Organisation for Economic Co-operation and Development (OECD), as well as key multi-stakeholder initiatives in which governments participate, such as the Extractive Industries Transparency Initiative (EITI) and the Voluntary Principles on Security and Human Rights. These bodies also help define the industry operating environment and contribute to joint problem-solving.

Investors

Our investors include pension funds, global fund managers, bondholders, employees and tens of thousands of individuals around the world. They have trusted us with their investment and, in return, they expect a financial return. But they are increasingly focused on how that return is made. They want to invest in companies that behave responsibly across environmental, social and governance (ESG) measures.

We engaged with current and potential investors through virtual forums for the majority of 2020, providing an opportunity for meetings with executive directors, the Chairman and non-executive directors. Additionally, our two annual general meetings (AGMs) in the UK and Australia provide an opportunity for all investors to question and engage with the Board. The Board also commissioned an independent perception study in April, seeking the views of institutional investors representing around 40% of the active Rio Tinto register in the US, the UK and Australia.

Given the growing importance of issues such as climate change, governance, social performance and environment, we present and engage regularly on these topics. In April, we held a sustainability seminar focused on our approach to climate and water management. Members of the executive team and subject matter experts provided an update on progress with our climate change strategy and our water management focus areas, including targets for both topics.

The Chairman and other non-executive directors engaged extensively with investors following the events at Juukan Gorge. Following the Board Review of Cultural Heritage Management, and extensive consultation with our global investor base, the Board announced changes to the Executive Committee in September. The company has moved with pace to take a number of actions to strengthen cultural heritage governance and controls, including an enhanced level of governance over the impact on sites of heritage significance.

The Chairman of the Remuneration Committee also consulted with investors in 2020 on proposed changes to the Remuneration Policy, due for renewal at the 2021 AGMs.

Two governance-focused engagements were also held by the Chairman and our Board Committee Chairs in December, facilitated by the Investor Forum (in the UK) and the Australian Council of Superannuation Investors (ACSI).

We intend to hold further environmental, social and governance forums in 2021 in response to growing investor interest in the company's progress in a number of areas including climate change, heritage and communities, closure and environment.

Customers & Suppliers

We could not produce materials essential to human progress without our suppliers, who help us at every stage of our business. Our customers turn them into the products upon which the modern world is built. We recognise that building trust with these critical stakeholders, and keeping it, requires us to deliver on our promises consistently, and to act with transparency, respect and integrity.

We use deep insights generated from everything we buy, sell and move around the world to ensure the needs of our customers are central to our operational decision making. Through the volatility of 2020, we engaged customers and suppliers to safely maintain our operations and the uninterrupted flow of materials and products through the value chain. The disruption of COVID-19 also gave us the opportunity to accelerate and expand our use of digital solutions – such as offering customers the opportunity to buy our products through a mobile app and conducting end-to-end digital transactions using blockchain technology.

We also continue to engage with our iron ore customers, such as Baowu Steel in China and Nippon Steel Corporation in Japan, to tackle emissions across the steel value chain – and to work with others, like AB InBev, to help make their supply chains more sustainable through the use of our low-carbon, Canadian aluminium. In 2020, our Kennecott and Oyu Tolgoi operations were the first and second producers globally to be awarded the 'Copper Mark', the industry's new independently assessed responsible production programme.

Suppliers are also an important way we have a positive impact on communities: in 2020, we spent \$15.5 billion with suppliers globally, including A\$8.2 billion in Western Australia, and A\$293 million with Indigenous suppliers across Australia. In Mongolia, between 2010 and the fourth quarter of 2020, Oyu Tolgoi spent \$3.54 billion on national procurement^(a).

This year, we introduced new payment terms in Australia to ensure smaller suppliers are paid quickly. As a result of the new policy, approximately 90% of our suppliers in Australia are paid within 20 days.

(a) Oyu Tolgoi's (OT) national procurement figure represents spend with suppliers registered in Mongolia and more than 50% owned by Mongolian citizens. It relates to the OT operations only, and does not include the underground project.

There is more detailed information on our stakeholder engagement in the Sustainability section on pages 62-91 and we set out how the Board takes account of stakeholder interests (our 'section 172(1) Statement') in the Governance section on pages 122-123 [AR](#).

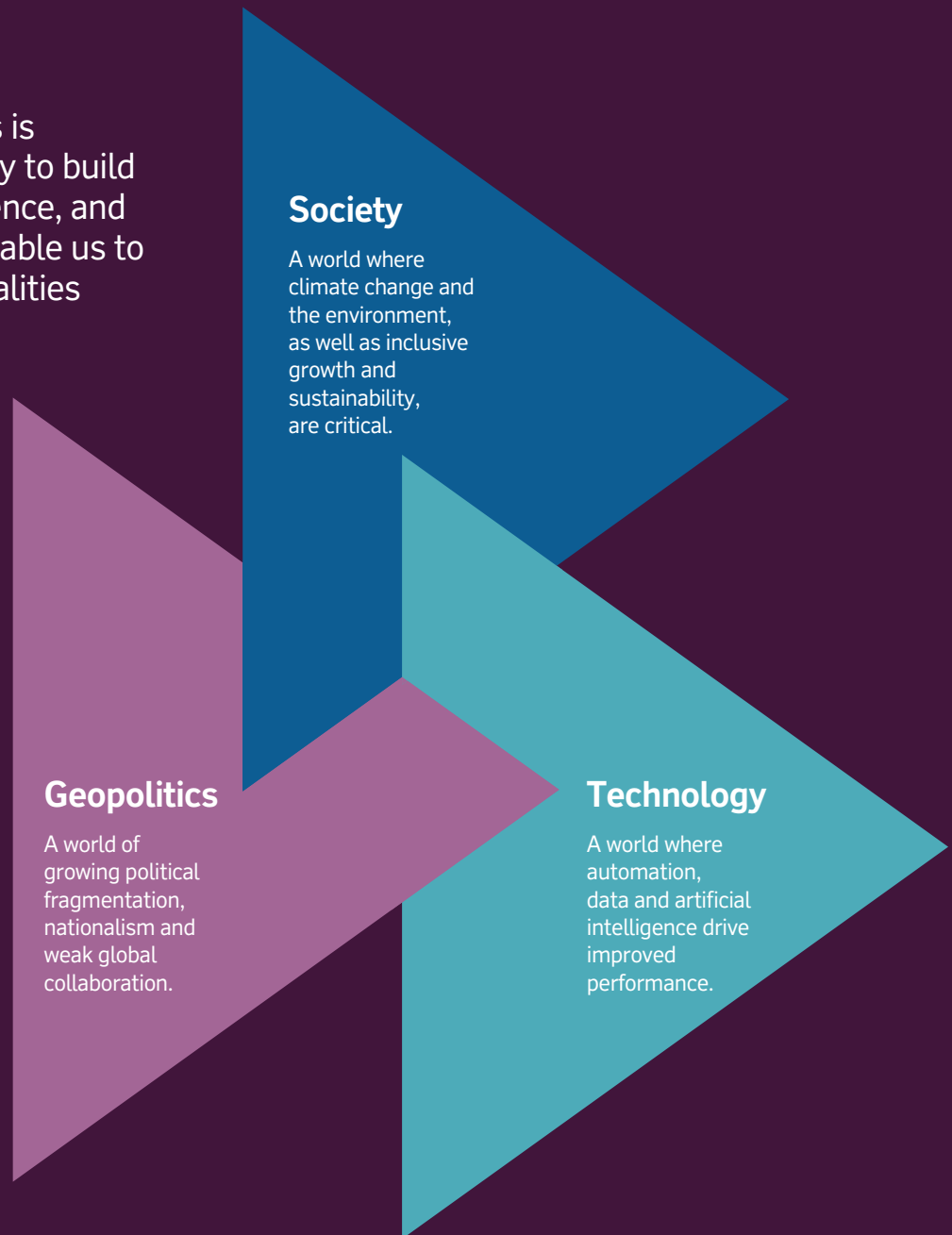
We meet with the Climate Action 100+ (CA100+) group regularly at the Board, Executive Committee and climate team levels, and we value their co-ordination of investor engagement.

We welcome the opportunity to join investors in the development and implementation of net zero transition action plans. As a supporter of the Task Force on Climate-related Financial Disclosures (TCFD) recommendations, we will work towards disclosures consistent with the evolving CA100+ benchmark and intend to put our annual TCFD-aligned reporting to an advisory vote at our 2022 annual general meetings.

Strategic Context

A new era of complexity

We recognise our success is predicated upon our ability to build and strengthen our resilience, and form partnerships that enable us to quickly adapt to future realities and opportunities.



In a world of increasing complexity, we continue to view the strategic context in which we operate through the lens of plausible scenarios, structured by the interplay of three global forces: geopolitics, society and technology. While it is still too early to delineate many mid- to long-term implications of COVID-19, it is fair to say that within each of these forces, the pandemic has the potential to amplify or decelerate trends already evident before the crisis.

Geopolitics

We have witnessed an evolution in the global geopolitical context over the past few years, marked by an erosion of global trust in elites and institutions, a backlash in some quarters against globalisation and a marked shift in the relationship between the United States and China. The growing sense of a fragmenting world order has been exacerbated by the unco-ordinated response to the COVID-19 global pandemic.

Tensions between the United States and China have become more structurally ingrained, reaching beyond trade into broader issues such as technological leadership and access to data. The pandemic has also accentuated concerns about security of the global supply chain, including for critical minerals, and self-sufficiency. Still, the economies of the United States and China remain closely intertwined and, despite growing talks of decoupling, this new era of competition will be shaped as much by how and where both countries agree to co-operate.

Other countries, including many in which we operate such as Australia, face the conundrum of how to position their economic and foreign policies towards the United States and China, knowing that how they do so will have implications for global growth and trade, both of which are critical to the outlook of the mining sector.

For Rio Tinto, balancing the relationships we have with our host country governments, as well as other stakeholders, alongside those we have with China as a key customer and supplier, market, technology partner and shareholder, is one of our top strategic priorities.

Society

The initial economic shock from the global pandemic has been sharper than the 2008 global financial crisis (GFC). And, as with the GFC, its impact has been uneven, particularly in countries that lack social safety nets and in low-income service sectors in which social distancing and remote working are difficult.

Social movements, such as Black Lives Matter, are not a product of the pandemic, but the global context and the shared, digitally-connected lockdown experience have facilitated linking local issues to a global narrative. Societal expectation for social equality, fairness and sustainability is today an increasingly powerful force.

The aftermath of the GFC saw a rising wave of populist sentiment. As the world turns to the rebuilding of the global economy after the pandemic, governments are facing growing calls for a new social contract.

In China, growth has been central to social stability, and, with the country now past its phase of rapid economic development, a broader focus may be needed, as indicated by President Xi Jinping's recent commitment to carbon neutrality by 2060. However, with budget deficits in several countries already approaching World War II levels, it will be difficult to close the gap between societal expectations and governments' ability to deliver.

Taken together, this dynamic promises to only increase pressures on businesses and the financial sector to step up their sustainability credentials. This is certainly true for our sector. The integration of sustainability, including cultural heritage, local economic contribution and climate change, into our strategy is another of our key strategic priorities.

Technology

Digital connectivity has been a defining feature of how the world adapted to life during a global pandemic. Investment and adoption rates in digital communication tools have leapt forward, upending traditional ways of working. This will likely have long-lasting effects on the future of work, cities and transport.

It remains to be seen whether the rapid digitalisation of work will boost medium-term global economic productivity and growth. But there is no doubt that increased online focus, across sectors, is helping to accelerate and concentrate wealth towards owners and operators of global digital platforms, adding another strand to concerns about economic inequality.

In addition, the development and cost reduction of low-carbon technologies is an ongoing trend that may further benefit from pandemic stimulus packages targeted at 'building back better' and advancing a green recovery. This in turn promises to accelerate the global energy transition – and therefore, potentially, future climate outcomes.

In the mining sector, technology has an important role to play in addressing productivity, growth and sustainability challenges. This is another core element to our strategy; our approach is to look for the best solutions through partnerships with our suppliers, technology providers and others across our value chains.

Our Strategy

Our strategy is to create superior, sustainable value for shareholders, in partnership with our stakeholders, by meeting customers' needs, maximising cash from world-class assets and allocating capital with discipline.

P Portfolio

Low-cost, long-life assets that deliver attractive returns

Our portfolio of low-cost, long-life assets delivers attractive returns through the cycle. After a significant portfolio reshaping, we are invested in commodities with strong, long-term fundamentals and material growth opportunities.

In 2018, with the sale of the last of our coal businesses, we became the first major diversified global mining company to divest all of our coal assets; this was part of our \$12 billion portfolio reshaping, which also included the decision to divest our stake in the Grasberg copper mine, in Indonesia, and the Dunkerque aluminium smelter, in France.

In 2020, we continued to evolve and strengthen our portfolio, in part by progressing important growth options, including those in Mongolia (the Oyu Tolgoi underground project), Australia (Winu, Gudai-Darri), Serbia (Jadar), Guinea (Simandou iron ore) and the United States (Resolution Copper). In 2021, we will also begin producing scandium oxide at a new plant in Quebec, Canada. Please refer to pages 40 to 41 for more on these growth projects, and pages 54 to 57 for more on our scandium oxide plant.

We have also announced a new electricity agreement that makes the Tiwai Point aluminium smelter, operated by New Zealand Aluminium Smelter (NZAS), economically viable and competitive over the next four years. The smelter will continue operating until 31 December 2024, providing certainty to employees, the local community and customers while providing more time for all stakeholders to plan for the future.

Work to progress ELYSIS™ – our joint venture with Alcoa that aims to eliminate direct greenhouse gases from the aluminium smelting process, launched with the support of the governments of Canada and Quebec – also continued this year with the completion of its Research & Development Centre in the Saguenay, Quebec.

P People

Building capability to drive performance

Attracting, developing and retaining the best people is crucial to our success. We continue to strengthen our technical and commercial capabilities through our Centres of Excellence, and are committed to building an inclusive and diverse workforce across our global business.

We have said that our company must become more representative of the communities in which we operate and the world we serve. Ultimately, we aspire to an environment where all aspects and dimensions of diversity are represented. In Australia, we have committed \$50 million to increasing Indigenous leadership. In 2021, we will also focus on improving the representation of women.

Women currently comprise approximately 20% of our workforce; we have increased the number of women in our senior leadership roles, from 19% to 26% in five years, an increase of 35%. But we are not where we want to be on any measure. And we know when we make an effort, women respond – a recent recruitment drive in Western Australia resulted in more than 2,000 applications from women for 100 jobs. And so, in 2021, we aim to do better.

Ultimately, we want to achieve a gender balance across our business of at least 40% women. But we recognise that will take time, and so for the first time, in 2021 we will have a target to increase female representation at Rio Tinto by 2% – or nearly 900 more women at all levels. Our commitment to increase the number of women in senior leadership roles by 2% every year also remains.

20%

of the global scandium oxide market to be met by our new plant in Quebec, Canada

\$50 million

to attract, retain and grow Indigenous professionals and leaders

P Performance

Safety, operational and commercial excellence drive superior margins and returns

Safety is our number one priority. We aim to generate value from mine to market and also to prioritise value over volume in our investment decisions. We work to maximise value in other ways – for example, by developing new markets for our materials, including as part of the transition to a low-carbon economy. We focus on operational excellence to improve efficiency.

This year was marked by strong performance. Our strong safety culture allowed us to deliver a second year with zero fatalities, with an all-injury frequency rate (AIFR) of 0.37, marking a year-on-year improvement. However, we recognise there is more to do.

Thanks to the significant sacrifices of many of our employees and the actions of host governments, we responded well to the global COVID-19 pandemic, acting to keep our employees, contractors and communities safe and healthy while keeping our operations running, continuing to deliver the products our customers need.

Despite challenging circumstances, we delivered a resilient financial performance in 2020, with underlying earnings of \$12.4 billion, underlying EBITDA of \$23.9 billion and free cash flow of \$9.4 billion. Net debt further reduced to \$0.7 billion (2019: \$3.7 billion), underpinning an already strong balance sheet providing both resilience and optionality.

0.37

all-injury frequency rate

P Partners

Working with others for future success

Partnerships and collaboration are essential to the long-term success of our business. We work closely with technology partners, local suppliers, governments, community groups, industry leaders and civil society organisations at all stages of the mining lifecycle, from exploration to rehabilitation and closure. We believe this gives us a competitive edge and also allows us to work more thoughtfully and responsibly, and to deliver real benefits to all our stakeholders.

This year, we added the word 'partnership' to our strategy statement, in recognition of the critical role our partners play in our performance across a variety of metrics. As part of our climate change strategy, for example, we signed a series of agreements (see page 79) with partners in China and Japan to address emissions across the steel value chain, in which our iron ore plays an important role.

In Canada, we signed a historic agreement between the Iron Ore Company of Canada and the communities of Uashat mak Mani-utenam and Matimekush-Lac John, in Newfoundland and Labrador and Quebec, two of our First Nations communities and partners. Through this partnership, nearly two years in the making, we will support local education and jobs, and preserve the environment, unique customs and cultural practices of both communities. The agreement is called Ussiniun, or 'renewal', in the Innu language, and it marks both a new beginning and a shared commitment to a strong future.

Our partnerships were also affected by our destruction of the rock shelters at Juukan Gorge (see pages 114 to 115 ^{AR}). Our work to earn back the trust we have lost, with the PKKP people, other Traditional Owners, Indigenous leaders and many other partners, in Australia and elsewhere, is one of our most important priorities this year.

\$14.5 million

committed to advance Scope 3 climate change partnerships

Key Performance Indicators

We use a range of financial and non-financial metrics, reported periodically, to measure Group performance against the four key areas of our strategy (portfolio, people, performance and partners).

All-injury frequency rate (AIFR)

per 200,000 hours worked

2016	0.44
2017	0.42
2018	0.44
2019	0.42
2020	0.37

Relevance to strategy & executive remuneration



Safety is our number one priority, it is the first of our core values and essential to everything we do. We are committed to maintaining zero fatalities, preventing catastrophic events and reducing injuries. We are a learning organisation enabling a safe, responsible and productive business that protects and cares for human life and wellbeing. In 2019, we introduced the safety maturity model and safety coaching framework. These programmes focus on building strong safety culture and leadership capability through the line. In 2020, we continued to implement these programmes. Our facilities also developed improvement plans and improved their safety maturity despite the pandemic-related challenges faced during 2020. This is supported by fewer injuries and serious incidents in 2020 compared to previous years.

We are focused and committed to strengthening our partnerships with industry and associated committees (eg ICMM), contracting partners and local communities with the priority of learning and sharing to protect everyone's health, safety and wellbeing.

Link to executive remuneration

Included as a performance metric in the safety component of the short-term incentive plan.

We marked a second year in a row of zero fatalities, aligning with our top safety objective. As we recognise this milestone, we are not forgetting the colleagues we have lost in the past. Sadly, a permanent disabling injury occurred at our Richards Bay Minerals Smelter in October, when one of our employees lost their hand while undertaking operational activities. We also had a permanent disabling injury at the Diavik Diamond Mine, in Canada. We are doing everything we can to support our colleagues and their families and endeavouring to learn and improve from these tragic incidents. Our all-injury frequency rate has improved to 0.37 from 0.42 in 2019, continuing the performance trend delivered over the past ten years, reducing from 0.69 in 2010. In 2020, our management of catastrophic event prevention continued to mature through embedding of improved standards, assurance and governance processes. The strong safety performance of 2020, accomplished while facing and adapting to the challenges of the COVID-19 pandemic, is testament to the organisation's relentless focus on safety.

Associated risks focus (see page 95):

- Operational
- ESG

Forward plan

We will:

- Continue to implement our critical risk management programme and safety maturity model
- Strengthen our safety leadership and coaching programmes
- Work more closely with contractors and joint venture partners to improve our safety record
- Continue to implement our major hazard standards, including process safety, water and tailings, with strong assurance processes
- Innovate to reduce exposure to safety and health risks

Definition

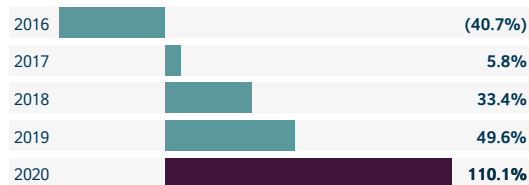
The number of injuries per 200,000 hours worked by employees and contractors at operations that we manage. AIFR includes medical treatment cases, restricted workday and lost day injuries.

Link to strategy



Total shareholder return (TSR)¹

measured over the preceding five years (using annual average share price)



TSR performance over the five-year period was driven principally by movements in commodity prices and changes in the global macro environment. Rio Tinto significantly outperformed the EMIX Global Mining Index over the five-year period, and slightly outperformed the MSCI World Index.

Associated risks focus (see page 95):

- Economic
- Strategic
- ESG

Relevance to strategy & executive remuneration

Our strategy aims to maximise shareholder returns through the commodity cycle, and TSR is a direct measure of that.

Link to executive remuneration

Reflected in long-term incentive plans, measured equally against the EMIX Global Mining Index and the MSCI World Index (see pages 146–147 ^{AR}).

Forward plan

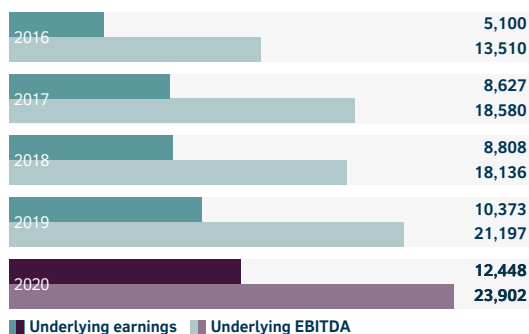
We will continue to focus on generating the free cash flow from our operations. This allows us to return cash to shareholders (short-term returns) while investing in the business (long-term returns).

Definition

Combination of share price appreciation (using annual average share price) and dividends paid and reinvested to show the total return to the shareholder over the preceding five years.

Underlying earnings and underlying EBITDA

\$ millions



Underlying earnings of \$12.4 billion were \$2.1 billion higher than in 2019. Underlying EBITDA of \$23.9 billion was \$2.7 billion higher than 2019. The 13% increase in underlying EBITDA resulted from higher iron ore and copper prices and lower energy costs, partly offset by lower prices for aluminium, movements in sales volumes and changes in product mix across the portfolio and higher operating cash costs.

Associated risks focus (see page 95):

- Economic
- Operational
- ESG

Relevance to strategy & executive remuneration

These financial KPIs measure how well we are managing costs, increasing productivity and generating the most revenue from each of our assets.

Link to executive remuneration

Underlying earnings is reflected in the short-term incentive plan; in the longer term, both measures influence TSR, which is the primary measure for long-term incentive plans (see pages 146–147 ^{AR}).

Forward plan

We will continue to drive superior margins and returns through a focus on operational and commercial excellence and our value over volume approach.

Definition

Underlying earnings represent net earnings attributable to the owners of Rio Tinto, adjusted to exclude items which do not reflect the underlying performance of the Group's operations. These items are explained in note 2 ^{AR} of the financial statements.

Underlying EBITDA represents profit before tax, net finance items, depreciation and amortisation. It excludes the EBITDA impact of the items mentioned above.

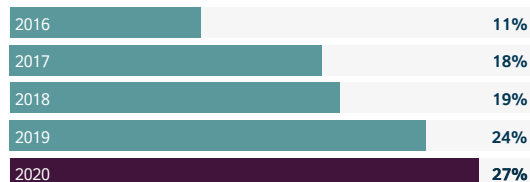
1. The TSR calculation for each period is based on the change in the calendar year average share prices for Rio Tinto plc and Rio Tinto Limited over the preceding five years. This is consistent with the methodology used for calculating the vesting outcomes for Performance Share Awards (PSA). The data presented in this chart accounts for the dual corporate structure of Rio Tinto.

Key Performance Indicators

continued

Return on capital employed (ROCE)

%



ROCE increased 3% to 27% in 2020, reflecting the increase in underlying earnings driven by higher iron ore prices, partially offset by an increase in capital employed due to capital expenditure and exchange rate movements.

Associated risks focus (see page 95):

- Strategic
- Economic
- ESG

Relevance to strategy & executive remuneration



Our portfolio of low-cost, long-life assets delivers attractive returns throughout the cycle and has been reshaped significantly in recent years. ROCE measures how efficiently we generate profits from investment in our portfolio of assets.

Link to executive remuneration

Underlying earnings, as a component of ROCE, is included in the short-term incentive plan. In the longer term, ROCE also influences TSR, which is included in long-term incentive plans.

Forward plan

We will continue to focus on maximising returns from our assets over the short, medium and long term. We will also maintain our disciplined and rigorous approach and invest capital only in projects that we believe will deliver returns that are well above our cost of capital.

Definition

Underlying earnings before interest divided by average capital employed (operating assets before net debt).

Net cash generated from operating activities

\$ millions



Net cash generated from operating activities of \$15.9 billion was 6% higher than 2019. This was primarily due to higher iron ore prices, partially offset by higher taxes paid and an increase in working capital.

Associated risks focus (see page 95):

- Economic
- Operational
- ESG

Relevance to strategy & executive remuneration



This KPI measures our ability to convert underlying earnings into cash.

Link to executive remuneration

Included in the short-term incentive plan; in the longer term, the measure influences TSR, which is included in long-term incentive plans (see pages 146-147 ^{AR}).

Forward plan

We will focus on effectively converting earnings into cash, underpinned by operational and commercial excellence, including our careful management of working capital.

Definition

Cash generated by our operations after tax and interest, including dividends received from equity accounted units and dividends paid to non-controlling interests in subsidiaries.

Free cash flow

\$ millions

2016	5,807
2017	9,540
2018	6,977
2019	9,158
2020	9,407

Free cash flow increased by \$0.2 billion to \$9.4 billion in 2020, primarily due to the increase in net cash generated from operating activities. This was partially offset by an increase in capital expenditure.

Associated risks focus (see page 95):

- Economic
- Operational
- ESG
- Strategic

Relevance to strategy & executive remuneration

This KPI measures the net cash returned by the business after the expenditure of sustaining and growth capital. This cash can be used for shareholder returns, reducing debt and other investment.

Link to executive remuneration

Included in the short-term incentive plan; in the longer term, the measure influences TSR, which is included in long-term incentive plans (see pages 146-147 ^{AR}).

Forward plan

We will focus on effectively converting earnings into cash, underpinned by operational and commercial excellence, including our careful management of working capital.

Definition

Net cash generated from operating activities minus purchases of property, plant and equipment and payments of lease principal, plus sales of property, plant and equipment.

Net cash/(net debt)

\$ millions

2016	(9,587)
2017	(3,845)
2018	255
2019	(3,651)
2020	(664)

Net debt decreased by \$3 billion to \$0.7 billion. This reflects \$9.4 billion of free cash flow in 2020, partially offset by \$6.3 billion of cash returns to shareholders through dividends and share buy-backs.

Associated risks focus (see page 95):

- Strategic
- Economic
- Operational
- ESG

Relevance to strategy & executive remuneration

This measures how we are managing our balance sheet and capital structure. A strong balance sheet is essential for giving us flexibility to take advantage of opportunities as they arise, and for returning cash to shareholders.

Link to executive remuneration

Net debt is, in part, an outcome of free cash flow, which itself is reflected in the short-term incentive plan. In the longer term, net debt influences TSR, which is reflected in long-term incentive plans (see pages 146-147 ^{AR}).

Forward plan

We will focus on effectively converting earnings into cash, underpinned by operational and commercial excellence, including our careful management of working capital.

Definition

Net borrowings after adjusting for cash and cash equivalents, other liquid investments and derivatives related to net debt (see note 23 ^{AR} of the financial statements).

Key Performance Indicators

continued

Scope 1 and 2 greenhouse gas emissions (equity Mt CO₂e)

2018	32.6*
2019	31.5
2020	31.5

Prior to 2018 we reported our greenhouse gas emissions on a 100% managed basis.

* The 2018 figure is the baseline for our 2030 emissions target and has been adjusted to exclude emissions from assets divested in that year. Actual emissions in 2018 were 34.0Mt CO₂e.

Relevance to strategy & executive remuneration



Climate risks and opportunities have formed part of our strategic thinking and investment decisions for over two decades. We now have a portfolio that is well positioned for the transition to a low-carbon economy and most of our assets already sit in the low end of their respective commodity carbon intensity curves.

Link to executive remuneration

Since 2018, our Chief Executive's performance objectives have been reflected in the short-term incentive plan (STIP), which includes delivery of the Group's strategy on climate change. These are cascaded down into the annual objectives of relevant members of the Executive Committee and other members of senior leadership.

This year, the Remuneration Committee approved revisions to how we include climate change in the STIP. See pages 172-173 ^{AR} of the Remuneration Report for further detail.

Since 2018, we have reduced Scope 1 and 2 emissions by 1.1Mt CO₂e, or 3%, which is on track with our 2030 target for absolute emissions. However, in 2020 our emissions remained at the same level as in 2019 at 31.5Mt CO₂e. We expect progress on emissions to accelerate in the target period as we start to deliver our decarbonisation plans.

Forward plan

Our ambition is to reach net zero emissions by 2050 across our operations. Our 2030 greenhouse gas targets are to reduce our emissions intensity by 30% and our absolute emissions by 15%, compared with our 2018 equity baseline. These targets are consistent with a 45% reduction in absolute emissions relative to 2010 levels and the Intergovernmental Panel on Climate Change (IPCC) pathways to 1.5°C.

Our targets are supported by our commitment to spend approximately \$1 billion on emissions reduction initiatives, research and development and activities to enhance the climate resilience of our business over the first five years of the ten-year target period.

Associated risks focus (see page 95):

- Strategic
- ESG

Definition

Equity emissions: equity share of Scope 1 & 2 emissions from managed and non-managed operations expressed in million metric tonnes of carbon dioxide equivalent.

Gender diversity

Gender balance in senior leadership

2016	19.2%
2017	22.4%
2018	22.6%
2019	22.6%
2020	26.1%

In 2020, we increased our female representation in senior leadership by 3.5% to 26.1%, surpassing our 2% year-on-year target. After a number of years of limited progress, this result represents significant focus on both attraction and retention of senior women in our organisation.

Associated risks focus (see page 95):

- Strategic
- ESG

Relevance to strategy & executive remuneration



Inclusion and diversity is an imperative for the long-term sustainable success of our business. Having a diverse workforce where people are valued for who they are and what they contribute is key to our sustained performance and growth. This KPI measures the number of women in the senior leadership cohort.

Link to executive remuneration

Included in the short-term incentive plan (see page 173 ^{AR}).

Forward plan

In 2021, we will focus on improving the representation of women, who comprise half the world's population but only about 20% of our workforce. We do this because we aim to have our company reflect the perspectives of the communities in which we operate; we undertake this effort alongside others, including efforts to strengthen Indigenous leadership across our business in Australia.

Definition

We define senior leadership as general managers, chief advisers and managing directors, including people not available for work due to extended leave.



Chief Financial Officer's statement

Our world-class assets, combined with our very strong balance sheet, supports our ability to provide superior cash returns to shareholders.

Underlying EBITDA

\$23.9bn

13% increase



Net cash generated from operating activities

\$15.9bn

6% increase



Net debt

\$0.7bn

Down \$3.0bn in 2020



Agile operating performance drives strong financials

In 2020, we have been agile and adapted our way of working to deliver another resilient operating performance while navigating the new and ongoing challenges of COVID-19. Against this backdrop, we generated underlying EBITDA of \$23.9 billion equivalent to an underlying EBITDA margin of 51%.

This 13% increase on 2019 underlying EBITDA was principally driven by higher prices, which added around \$3.4 billion in aggregate. Whilst our iron ore business benefited from robust demand and resilient prices, other commodities experienced significant volatility throughout the year. In aluminium, the impact of COVID-19 reduced prices sharply in the first half of 2020, as demand shrunk, in particular from the automotive sector, but we saw these recover later in the year, on the back of strong demand from China and tight scrap markets. Copper initially followed the same path as aluminium, in line with the world economy, but has since recovered strongly. This was partly due to supply disruption and was amplified by investor positioning.

Lower sales volumes and changes in product mix reduced underlying EBITDA by \$0.5 billion. This was mainly driven by lower gold volumes following a reduction in grades at Oyu Tolgoi and at Kennecott, lower titanium dioxide feedstock volumes and lower sales of value-added products in our aluminium business in line with market demand.

Chief Financial Officer's statement

continued

While we continue to adapt to an unpredictable external environment, one thing that does not change is our capital allocation framework.

Despite the disruptions to operations and markets caused by COVID-19, our operational performance was strong and we delivered production broadly in line with guidance.

Our focus on cost control and productivity improvements continued throughout the year. The pandemic-induced economic slowdown led to significantly lower energy costs, increasing underlying EBITDA by \$0.5 billion, mainly from lower diesel prices for our trucks, trains and ships and reduced coal prices for two of our Pacific Aluminium smelters. We also benefited from continued respite on cost inflation for certain raw materials for our aluminium business, in particular caustic soda, pitch, petroleum coke and alloys. However, this was outweighed by other cost pressures, notably the fixed cost inefficiencies in our Copper business: at Kennecott, due to the extended smelter maintenance, and at Oyu Tolgoi in line with a temporary reduction in gold grades. Overall, our higher unit cash costs, excluding energy and general inflation, reduced underlying EBITDA by \$0.4 billion compared with 2019. In addition, we incurred \$0.3 billion of costs associated with tackling COVID-19 across our operations.

No change to our disciplined capital allocation framework

While we continue to adapt to an unpredictable external environment, one thing that does not change is our capital allocation framework. We will continue to invest in safely managing our assets and improving their performance. This means that sufficient spending on sustaining capital is always the priority. The next priority is allocating capital to our shareholders - through our ordinary dividend. Then we carefully consider: allocating to growth opportunities, balance sheet strength, and further shareholder returns.

Our investment decisions are carried out with incredible rigour. I believe that this is the best assurance for our shareholders – that we will only invest in opportunities that create value – even more so during turbulent times. Growth for us is all about value generation and returns for our shareholders. It is not about volume. It is about building sustainable cash flow.

In 2020, we increased our capital expenditure by 13% to \$6.2 billion, as we continue to invest through the cycle. This was comprised of \$3.2 billion of development capital, of which \$2.1 billion was replacement capital, and \$3.0 billion was sustaining capital. Our most significant growth project remains the Oyu Tolgoi copper/gold underground mine in Mongolia where we invested around \$1 billion in 2020, on a 100% basis as we fully consolidate Oyu Tolgoi. Much of this year's increase relates to our Pilbara replacement iron ore mines as we ramped up the pace of construction at Gudai-Darri (formerly Koodaideri), at the Robe River Joint Venture mines and at Tom Price. We expect first tonnes from these mines in 2021 and 2022.

Our strong balance sheet provides resilience

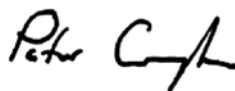
We ended 2020 with net debt of just \$0.7 billion, a decrease of \$3.0 billion during the year due to the strength of our free cash flow, net of the \$6.3 billion of returns we paid to shareholders in 2020.

Our world-class assets, combined with our very strong balance sheet, support our ability to provide superior cash returns to shareholders. They also enable us to manage the business through cycles – which means we can act counter-cyclically – and provide us with optionality. Our strong balance sheet is particularly valuable in the current volatile environment.

Our payout ratio has now averaged 73% over the past five years

We implemented our returns policy in 2016, committing to total cash returns to shareholders, over the longer term, of 40-60% of underlying earnings, on average through the cycle. Since its inception, we have consistently paid out well above this range in every year.

We have built on our returns track record over five years – this year, we are returning 72% of underlying earnings to shareholders. This is comprised of the full year ordinary dividend of 464 US cents per share and special dividend of 93 US cents per share, which brings the total dividend to 557 US cents, or \$9.0 billion.



Peter Cunningham
Interim Chief Financial Officer

22 February 2021

Financial Review

Non-GAAP measures

In addition to IFRS measures, management uses non-GAAP measures internally to assess performance. Full reconciliations are provided on pages 329–333 ^{AB}. These measures are highlighted with the symbol: •

At year end	2020	2019	Change
Net cash generated from operating activities (US\$ millions)	15,875	14,912	6%
Capital expenditure ¹ (US\$ millions)	6,189	5,488	13%
Free cash flow ² (US\$ millions)•	9,407	9,158	3%
Consolidated sales revenue (US\$ millions)	44,611	43,165	3%
Underlying EBITDA ² (US\$ millions)•	23,902	21,197	13%
Net earnings (US\$ millions)	9,769	8,010	22%
Underlying earnings per share ² (EPS) (US cents)•	769.6	636.3	21%
Ordinary dividend per share (US cents)	464.0	382.0	21%
Total dividend per share (US cents)	557.0	443.0	26%
Net debt ² (US\$ millions)•	(664)	(3,651)	
Return on capital employed (ROCE) ² •	27%	24%	

Our financial results are prepared in accordance with International Financial Reporting Standards (IFRS). Footnotes are set out on page 33.

- \$15.9 billion net cash generated from operating activities was 6% higher than 2019 primarily driven by higher iron ore prices and stability in operating performance. These flowed through to 3% higher free cash flow² of \$9.4 billion, which was net of a \$0.7 billion increase in capital expenditure¹ to \$6.2 billion.
- \$23.9 billion underlying EBITDA² was 13% above 2019, with an underlying EBITDA margin² of 51%.
- \$12.4 billion underlying earnings² (underlying EPS² of US 769.6 cents) were 20% above 2019 with a 29.5% effective tax rate on underlying earnings³ – in line with 2019. Taking exclusions into account, net earnings of \$9.8 billion were 22% higher than 2019, mainly reflecting \$1.1 billion³ of impairments, most of which were taken in the first half of 2020 (five aluminium smelters and the Diavik diamond mine) and \$1.3 billion of exchange losses. This compared with \$1.7 billion³ of impairments in 2019 (primarily the Oyu Tolgoi underground copper/gold project and the Yarwun alumina refinery).
- Strong balance sheet with net debt² of \$0.7 billion, a decrease of \$3.0 billion, reflected the strength of our free cash flow, partly offset by \$6.3 billion of cash returns to shareholders in 2020.
- \$9.0 billion full-year dividend, equivalent to 557 US cents per share and 72% of underlying earnings, includes \$5.0 billion record final ordinary dividend (309 US cents per share) and \$1.5 billion special dividend (93 US cents per share) declared today.

72% payout builds on our five-year track record; \$9.0 billion of dividends declared for 2020

Ordinary dividend	US\$ billion	US cents per share
Interim ordinary dividend paid in September 2020	2.5	155
Final ordinary dividend to be paid in April 2021	5.0	309
Full-year ordinary dividend represents 60% payout	7.5	464
Additional returns		
Special dividend to be paid in April 2021	1.5	93
Combined total is 72% of 2020 underlying earnings	9.0	557

Financial Review

continued

Strong cash flow from operations enhances free cash flow

	2020 US\$m	2019 US\$m
Net cash generated from operating activities	15,875	14,912
Capital expenditure ¹	(6,189)	(5,488)
Sales of property, plant and equipment	45	49
Lease principal payments	(324)	(315)
Free cash flow ²	9,407	9,158
Disposals ⁴	10	(80)
Dividends paid to equity shareholders	(6,132)	(10,334)
Share buy-backs	(208)	(1,552)
Non-cash impact from implementation of IFRS 16 "Leases" from 1 January 2019	–	(1,248)
Other	(90)	150
Decrease/(increase) in net debt²	2,987	(3,906)

Footnotes are set out on page 33.

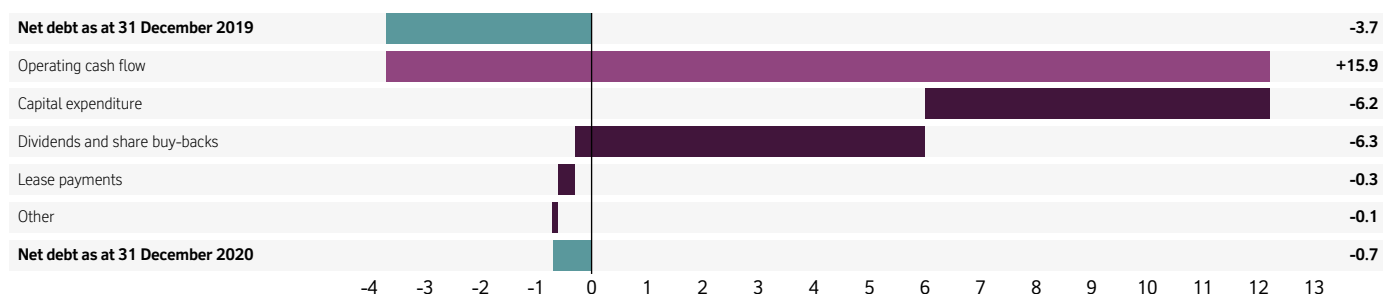
- \$15.9 billion in net cash generated from operating activities, 6% higher than 2019, was driven primarily by higher underlying EBITDA from higher iron ore prices, net of an increase in tax paid in line with profits, a modest rise in working capital (primarily higher prices in receivables), increased dividends paid to joint venture partners and lower dividends received from equity accounted units.
- \$6.2 billion capital expenditure¹ comprised of \$3.2 billion of development capital, of which \$2.1 billion is replacement capital, and \$3.0 billion of sustaining capital. In 2020, we funded our capital

expenditure from operating activities. We expect to continue funding our capital programme from internal sources, except for the Oyu Tolgoi underground development, which is project-financed.

- \$6.1 billion of dividends paid in 2020 comprised the 2019 final paid in April 2020 (\$3.6 billion) and the 2020 interim paid in September (\$2.5 billion).
- \$0.2 billion of share buy-backs with 3.6 million Rio Tinto plc shares repurchased.
- As a result of the above, net debt² decreased by \$3.0 billion in 2020, ending the year at \$0.7 billion.

Net debt movements

(\$ billion)



Growth projects and development options gather momentum

- We maintained our exploration and evaluation spend at \$625 million in 2020, as we progressed our greenfield programmes and advanced our evaluation projects, in particular Resolution Copper in Arizona, US, Jadar lithium-borates in Serbia and Winu copper-gold in Western Australia.
- At Winu, we declared a maiden Inferred Mineral Resource of 503 Mt at 0.45% copper equivalent and announced the discovery of a new zone of gold dominant mineralisation approximately two kilometres east of Winu.⁵ We are now targeting first production in 2024, subject to regulatory approvals, Traditional Owner and other consents, and COVID-19 restrictions.
- At Jadar, we progressed to the feasibility study stage, following Board approval of almost \$200 million of funding, and declared a maiden Ore Reserve. The studies are expected to be complete by the end of 2021. If the investment is approved, construction would take approximately four years. The project could produce ~55 thousand tonnes of battery-grade lithium carbonate, 160 thousand tonnes of boric acid (B₂O₃ units) and 255 thousand tonnes of sodium sulphate per year.⁶
- At Resolution Copper, the independently prepared Final Environmental Impact Statement was published by the US Forest Service. We have now entered the next phase of public comment in the ongoing permitting process. We are committed to ongoing stakeholder engagement in our effort to seek consent to progress the project consistent with the International Council on Mining and Metals (ICMM) Statement on Indigenous Peoples and Mining.
- At the Simandou iron ore project (Blocks 3 and 4) in Guinea, we expect to complete the first phase of the technical optimisation work on the infrastructure components in the first half of 2021. Activity at the mine area has commenced and an update of the Social and Environmental Impact Assessment is underway.
- The \$2.6 billion Gudai-Darri (formerly known as Koodaideri) replacement iron ore mine in Western Australia is progressing, with production ramp-up on track for early 2022. This first phase of Gudai-Darri will have a 43 Mt annual capacity, underpinning production of the Pilbara Blend™.
- First ore from the other iron ore sustaining production projects – the \$0.8 billion (our share) Robe River Joint Venture (West Angelas C&D and Mesa B, C and H at Robe Valley) and the \$0.8 billion Western Turner Syncline phase 2 mine – is on track for 2021.
- At the Oyu Tolgoi underground copper/gold project in Mongolia, we confirmed development capital of \$6.75 billion⁷ following completion of the definitive estimate, with sustainable production for Panel O expected to commence in October 2022. We are in active discussions with the government of Mongolia to address and close all outstanding issues and increase the project's benefits to all stakeholders.
- The \$0.9 billion first phase of the south wall pushback at the Kennecott copper mine in the US, which will extend mine life to 2026, remains on track with gradually higher copper grades accessed from 2021. Stripping for the \$1.5 billion second phase is also on track and is expected to extend operations for a further six years.
- The Zulti South project at Richards Bay Minerals (RBM) in South Africa, which will sustain current capacity and extend mine life, remains on full suspension, pending normalisation of operations.

Underlying EBITDA and underlying earnings by product group

Year ended 31 December	Underlying EBITDA			Underlying earnings		
	2020 US\$m	2019 US\$m	Change %	2020 US\$m	2019 US\$m	Change %
Iron Ore	18,837	16,098	17%	11,398	9,638	18%
Aluminium	2,152	2,285	(6)%	471	599	(21)%
Copper & Diamonds	2,172	2,073	5%	763	554	38%
Energy & Minerals	1,646	1,762	(7)%	577	611	(6)%
Reportable segment total	24,807	22,218	12%	13,209	11,402	16%
Other operations	–	(77)	(100)%	(54)	(89)	(39)%
Inter-segment transactions	(94)	(9)	944%	(32)	(3)	967%
Product group total	24,713	22,132	12%	13,123	11,310	16%
Central pension costs, share-based payments and insurance	72	59	22%	81	60	35%
Restructuring, project and one-off costs	(133)	(183)	(27)%	(108)	(94)	15%
Other central costs	(500)	(496)	1%	(418)	(550)	(24)%
Central exploration and evaluation	(250)	(315)	(21)%	(216)	(231)	(6)%
Net interest				(14)	(122)	(89)%
Total	23,902	21,197	13%	12,448	10,373	20%

Underlying EBITDA and underlying earnings are non-GAAP alternative performance measures ("APMs") used by management to assess the performance of the business, and provide additional information which investors may find useful. APMs are reconciled to directly comparable IFRS financial measures on pages 329-333 [AR](#).

- Capital expenditure is presented gross, before taking into account any cash received from disposals of property, plant and equipment (PP&E).
- This financial performance indicator is a non-GAAP alternative performance measure ("APM"). It is used internally by management to assess the performance of the business and is therefore considered relevant to readers of this document. It is presented here to give more clarity around the underlying business performance of the Group's operations. APMs are reconciled to directly comparable IFRS financial measures on pages 329-333 [AR](#).
- Refer to page 229 [AR](#) for pre-tax analysis of impairment charge.
- Net disposal proceeds in 2019 included a cash outflow representing Rössing Uranium's cash balance at the date of sale.
- Refer to the release to the Australian Securities Exchange (ASX) on 28 July 2020 "Rio Tinto reveals maiden Resource at Winu and new discovery". The Competent Person responsible for the information in that release that relates to Mineral Resources and Exploration Results is Dr Julian Verbeek. Rio Tinto confirms that it is not aware of any new information or data that materially affects the information included in the market announcement, that all material assumptions and technical parameters underpinning the estimates in the market announcement continue to apply and have not materially changed, and that the form and context in which the Competent Person's findings are presented have not been materially modified.
- These production targets were previously reported in a release to the ASX dated 10 December 2020, "Rio Tinto declares maiden Ore Reserve at Jadar". All material assumptions underpinning the production targets continue to apply and have not materially changed.
- This estimate is at a "better than feasibility study" level of accuracy.

Financial Review

continued

Commentary on financial results

To provide additional insight into the performance of our business, we report underlying EBITDA and underlying earnings. The principal factors explaining the movements in underlying EBITDA are set out in this table.

	US\$m
2019 underlying EBITDA	21,197
Prices	3,407
Exchange rates	(103)
Volumes and mix	(452)
General inflation	(251)
Energy	461
Operating cash unit costs	(450)
One-off items	153
Non-cash costs/other	(60)
2020 underlying EBITDA	23,902

Significant momentum from higher iron ore prices

Commodity price movements in 2020 increased underlying EBITDA by \$3,407 million compared with 2019. This was primarily driven by the strength in pricing for iron ore (+\$3,262 million) and copper (+\$405 million) and was partly offset by lower prices for aluminium, alumina and bauxite (-\$314 million). We have included a table of prices and exchange rates on page 381 [AR](#).

The 2020 monthly average Platts index for 62% iron fines adjusted to an FOB basis was 19% higher on average compared with 2019, driven by continued supply disruptions in the seaborne market and strong demand following record Chinese steel output.

The average London Metal Exchange (LME) price for copper was 3% higher, while the LME aluminium price was 5% lower, compared with 2019. The gold price rose 27%.

The midwest premium for aluminium in the US averaged \$313 per tonne, 2% lower than in 2019.

Exchange rates impacted by stronger A\$ at year-end

Compared with 2019, on average, the US dollar was broadly flat against the Australian and Canadian dollars but strengthened by 12% against the South African rand. Currency movements, which lowered underlying EBITDA by \$103 million relative to 2019, mainly related to exchange rate losses on receivables following the significant strengthening of the Australian dollar at 2020 year-end.

Volumes and product mix

Underlying EBITDA was \$452 million lower than 2019 from movements in sales volumes and changes in product mix across the portfolio. Although iron ore shipments from the Pilbara rose by 1%, the year-on-year gains are mostly included in Other, reflecting recovery from the fire at Cape Lambert A port in 2019. Other key variances included lower gold volumes following a reduction in grades at Oyu Tolgoi and Kennecott, lower titanium dioxide feedstock volumes and lower sales of value added products in our aluminium business in line with market demand.

Energy prices substantially lower

Average movements in energy prices compared with 2019 improved underlying EBITDA by \$461 million, mainly due to lower diesel prices and reduced coal prices for two of our Pacific Aluminium smelters.

Higher costs driven by lower volumes

The impact of higher cash operating costs, which we reflect on a unit cost basis, reduced underlying EBITDA by \$450 million compared with 2019. There was continued respite on cost inflation for certain raw materials for Aluminium, in particular caustic soda, pitch, petroleum coke and alloys. However, this was outweighed by other cost pressures, notably fixed cost inefficiencies at Kennecott, due to the lower grades and the extended smelter maintenance, and higher unit cash costs at Oyu Tolgoi in line with lower output.

Maintained our exploration spend

Our exploration and evaluation spend was largely unchanged at \$625 million. This went to our greenfield programmes and highest value projects, particularly on evaluating the Resolution Copper project in Arizona, advancing our Winu copper/gold deposit in Australia and progressing our Jadara lithium-borate project in Serbia. In addition, \$82 million for iron ore feasibility studies in the Pilbara was recognised as capital expenditure.

One-off items

One-off items aggregated to be \$153 million less than in 2019. 2020 one-offs primarily reflected earlier than planned pot-lining replacement at the Kitimat aluminium smelter (\$51 million) and an increased impact from curtailment of operations at RBM (\$23 million). These were offset by the non-recurrence of 2019 events, including the \$199 million charge at Escondida to reflect cancellation of existing coal powered energy contracts following a switch to renewables and \$68 million for challenges faced at our ISAL and Kitimat aluminium smelters.

Non-cash costs/other

Movements in non-cash costs and other items, which lowered underlying EBITDA by \$60 million compared with 2019, mainly reflected additional costs (\$333 million) incurred from COVID-19 across the Group such as screening, equipment hire, roster changes, temporary relocation and hygiene. This was offset by recovery from the fire at the Cape Lambert A port in the Pilbara in 2019 (\$184 million) and lower provisions in respect of legacy operations (\$23 million).

Net earnings, underlying earnings and underlying EBITDA

In order to provide additional insight into the performance of its business, Rio Tinto reports underlying EBITDA and underlying earnings. The differences between underlying earnings, underlying EBITDA, and net earnings are set out in this table.

Net earnings

\$9.8bn

22% increase

Net earnings

	US\$m
2019 net earnings	8,010
Total changes in underlying EBITDA	2,705
Decrease in depreciation and amortisation (pre-tax) in underlying earnings	275
Decrease in interest and finance items (pre-tax) in underlying earnings	143
Increase in tax on underlying earnings	(839)
Increase in underlying earnings attributable to outside interests	(209)
Total changes in underlying earnings	2,075
Changes in exclusions from underlying earnings:	
Movement in net impairment charges	543
Movement in losses on consolidation and disposal of interests in businesses	291
Movement in exchange differences and gains/losses on debt	(1,064)
Movements in other exclusions	(86)
2020 net earnings	9,769

Depreciation and amortisation, net interest, tax and non-controlling interests

The depreciation and amortisation charge was \$275 million lower than 2019, mainly due to a lower asset base following impairments in 2019 and in the first half of 2020, together with accelerated depreciation in 2019 following the pot failures at Kitimat.

Lower interest and finance items (pre-tax) were reflective of a lower level of net debt on average during the year, in part due to repayment of \$526 million of Euro Bonds, which matured in May 2020. It also reflected more of our debt being at floating interest rates.

The 2020 effective corporate income tax rate on underlying earnings, excluding equity accounted units, was 29.5%, in line with 2019. The effective tax rate on underlying earnings in Australia was 32% in 2020 compared with 31% in 2019. We anticipate an effective tax rate on underlying earnings of approximately 30% in 2021.

Items excluded from underlying earnings

Net impairment charges decreased by \$543 million compared with 2019. We recognised \$1,115 million of impairment charges in 2020, comprised of \$472 million related to three of our Pacific Aluminium smelters (NZAS, Bell Bay and Boyne), \$131 million related to the ISAL smelter in Iceland, \$220 million for the Sohar smelter in Oman and \$292 million related to our interest in the Diavik diamond mine.

In 2019, we recognised impairment charges of \$1,658 million, after tax and non-controlling interests, primarily related to the Oyu Tolgoi copper/gold underground project and the Yarwun alumina refinery. There is a detailed explanation of the impairment process on pages 229-231 [AR](#).

The \$291 million movement in losses on consolidation and disposals of interests in businesses primarily relates to the disposal of our stake in Rössing Uranium in 2019.

In 2020, we recognised non-cash exchange and derivative losses of \$1,264 million. This was mainly on US dollar debt in non-US dollar functional currency Group companies, intragroup balances, and on the revaluation of certain derivatives which do not qualify for hedge accounting. These losses compared with a 2019 loss of \$200 million, giving rise to a negative year-on-year movement of \$1,064 million. The exchange losses are largely offset by currency translation gains recognised in equity. The quantum of US dollar debt is largely unaffected and we will repay it from US dollar sales receipts.

In 2020, we excluded net additional closure costs of \$300 million from underlying earnings principally relating to a non-operating site (Gove), a fully impaired site (Argyle) and the net earnings impact in respect of increases to closure provisions following a reduction to the closure discount rate. These are included in Movements in other exclusions. Further analysis can be found on page 226 [AR](#).

Profit

Net earnings and underlying earnings refer to amounts attributable to the owners of Rio Tinto. The net profit attributable to the owners of Rio Tinto in 2020 was \$9.8 billion (2019: \$8.0 billion). We recorded a profit after tax in 2020 of \$10.4 billion (2019: \$7.0 billion) of which a profit of \$0.6 billion (2019 loss: \$1.0 billion) was attributable to non-controlling interests.

Financial Review

continued

Net earnings and underlying earnings

The differences between underlying earnings and net earnings are set out in this table (all numbers are after tax and exclude non-controlling interests).

	2020 US\$m	2019 US\$m
Underlying earnings	12,448	10,373
Items excluded from underlying earnings		
Impairment charges	(1,115)	(1,658)
Net losses on consolidation and disposal of interests in businesses	–	(291)
Foreign exchange and derivative losses on net debt and intragroup balances and derivatives not qualifying for hedge accounting	(1,264)	(200)
Net losses from movements to closure estimates (non-operating and fully impaired sites)	(300)	–
Other exclusions	–	(214)
Net earnings	9,769	8,010

On page 226 ^{AR} there is a detailed reconciliation from underlying earnings to net earnings, including pre-tax amounts and additional explanatory notes. The differences between Profit after tax and underlying EBITDA are set out in the table on page 329 ^{AR}.

Balance sheet

Our net debt of \$0.7 billion decreased by \$3.0 billion in 2020, reflecting dividend payments of \$6.1 billion and \$0.2 billion of share buy-backs, more than offset by our strong free cash flow.

Our net gearing ratio (net debt to total capital) declined to 1% at 31 December 2020 (31 December 2019: 7%).

Our total financing liabilities at 31 December 2020 (see page 242 ^{AR}) were US\$13.8 billion (31 December 2019: \$14.3 billion) and the weighted average maturity was around nine years. At 31 December 2020, approximately 86% of these liabilities were at floating interest rates (94% excluding leases). The maximum amount within non-current borrowings maturing in any one calendar year was \$1.8 billion, which matures in 2025.

We had \$12.9 billion in cash and cash equivalents plus other short-term cash investments at 31 December 2020 (31 December 2019: \$10.6 billion) and we have \$7.5 billion of fully committed Revolving Credit Facilities, which remained undrawn throughout the period, and mature in November 2023.

Provision for closure costs

This year we have enhanced our disclosure on Provisions for close-down and restoration costs and environmental clean-up obligations, which at 31 December 2020, were \$13.3 billion (31 December 2019: \$11.1 billion). The principal movements during the year were currency appreciation (\$0.7 billion), reduction in discount rate (\$1.0 billion), changes to existing and new provisions (\$0.6 billion) and drawdowns in the provision through spend (\$0.4 billion). Of the \$13.3 billion in provisions, \$10.7 billion relates to operating sites and \$2.6 billion is for legacy sites. Remaining lives of operations and infrastructure range from one to over 50 years with an average for all sites, weighted by present closure obligation, of around 17 years (2019: 18 years).

The provisions are based on risk-adjusted cash flows. In September 2020, we completed a review of the discount rate used to reflect the obligations at present value and updated it to a real-rate of 1.5% (previously 2.0%), applied prospectively from that date.

In 2021, we expect to utilise around \$0.6 billion of the provisions as we advance our closure activities at Argyle, Energy Resources of Australia, Gove alumina refinery and legacy sites.

We have disclosed further information, including the composition of the provision by cost category and by geography, on pages 244–245 ^{AR}.

Our shareholder returns policy

The Board is committed to maintaining an appropriate balance between cash returns to shareholders and investment in the business, with the intention of maximising long-term shareholder value.

At the end of each financial period, the Board determines an appropriate total level of ordinary dividend per share. This takes into account the results for the financial year, the outlook for our major commodities, the Board's view of the long-term growth prospects of the business and the company's objective of maintaining a strong balance sheet. The intention is that the balance between the interim and final dividend be weighted to the final dividend.

The Board expects total cash returns to shareholders over the longer term to be in a range of 40-60% of underlying earnings in aggregate through the cycle. Acknowledging the cyclical nature of the industry, it is the Board's intention to supplement the ordinary dividend with additional returns to shareholders in periods of strong earnings and cash generation.

Our payout ratio has averaged 73% over the past five years

2016	60%	10%	70%
2017	60%	23%	83%
2018	60%	11%	71%
2019	60%	10%	70%
2020	60%	12%	72%

■ Ordinary dividend ■ Additional return ■ Total payout ratio

Total cash returns declared: building on our five-year track record with a 72% payout for 2020

	2020 US\$ billion	2019 US\$ billion
Ordinary dividend		
Interim	2.5	2.5
Final	5.0	3.7
Full-year ordinary dividend	7.5	6.2
Additional returns		
Special dividend announced in August 2019, paid in September 2019	n/a	1.0
Special dividend announced in February 2021, to be paid in April 2021	1.5	n/a
Total cash returns to shareholders declared for each year	9.0	7.2
Combined total as % of underlying earnings	72%	70%

Total cash returns paid: 2019 includes 2018 special dividend from divestment proceeds

	2020 US\$ billion	2019 US\$ billion
Previous year's final ordinary dividend paid in April of each year	3.6	2.9
Special dividend announced in February 2019, paid in April 2019	n/a	3.9
Interim ordinary dividend paid in September of each year	2.5	2.5
Special dividend announced in August 2019, paid in September 2019	n/a	1.0
Share buy-back programme, completed in February 2020	0.2	1.6
Total cash returns paid to shareholders	6.3	11.9

Financial Review

continued

We determine dividends in US dollars. We declare and pay Rio Tinto plc dividends in pounds sterling and Rio Tinto Limited dividends in Australian dollars. The 2020 final dividend has been converted at exchange rates applicable on 16 February 2021 (the latest practicable date before the dividend was declared). American Depositary Receipt (ADR) holders receive dividends at the declared rate in US dollars.

Ordinary dividend per share declared	2020 dividends	2019 dividends
Rio Tinto Group		
Interim (US cents)	155.00	151.00
Final (US cents)	309.00	231.00
Full-year (US cents)	464.00	382.00
Rio Tinto plc		
Interim (UK pence)	119.74	123.32
Final (UK pence)	221.86	177.47
Full-year (UK pence)	341.60	300.79
Rio Tinto Limited		
Interim (Australian cents)	216.47	219.08
Final (Australian cents)	397.48	349.74
Full-year (Australian cents)	613.95	568.82
Special dividend per share declared	2020 dividends	2019 dividends
Rio Tinto Group		
Declared with 2019 interim results (US cents)	n/a	61.00
Declared with 2020 full year results (US cents)	93.00	n/a
Rio Tinto plc		
Declared with 2019 interim results (UK pence)	n/a	49.82
Declared with 2020 full year results (UK pence)	66.77	n/a
Rio Tinto Limited		
Declared with 2019 interim results (Australian cents)	n/a	88.50
Declared with 2020 full year results (Australian cents)	119.63	n/a

The 2020 final dividend and the special dividend to be paid to our Rio Tinto Limited shareholders will be fully franked. The Board expects Rio Tinto Limited to be in a position to pay fully franked dividends for the foreseeable future.

On 15 April 2021, we will pay the 2020 final dividend and the special dividend to holders of ordinary shares and holders of ADRs on the register at the close of business on 5 March 2021 (record date). The ex-dividend date is 4 March 2021.

Rio Tinto plc shareholders may choose to receive their dividend in Australian dollars, and Rio Tinto Limited shareholders may choose to receive theirs in pounds sterling. Currency conversions will be based on the pound sterling and Australian dollar exchange rates five business days before the dividend payment date. Rio Tinto plc and Rio Tinto Limited shareholders must register their currency elections by 23 March 2021.

We will operate our Dividend Reinvestment Plans for the 2020 final dividend – see our website (riotinto.com) for details. Rio Tinto plc and Rio Tinto Limited shareholders' election notice for the Dividend Reinvestment Plans must be received by 23 March 2021. Purchases under the Dividend Reinvestment Plan are made on or as soon as practicable after the dividend payment date and at prevailing market prices. There is no discount available.

In line with market practice, we will be introducing a dividend fee on cash dividends paid on the ADR. The fee revenue will cover costs associated with the management of the ADR programme. The fee of \$0.005 per ADR, per cash dividend, will be introduced with the 2021 interim dividend which is payable on 23 September 2021. The fee will be deducted by the depositary.

Portfolio Management

Projects (Rio Tinto 100% owned unless otherwise stated)	Total approved capital cost (100% unless otherwise stated)	Status/Milestones
Ongoing and approved		
Iron Ore		
Investment in the Robe River Joint Venture (West Angelas C and D and Mesa B, C and H at Robe Valley) in the Pilbara region of Western Australia to sustain production capacity.	\$0.8bn (RT share)	Approved in October 2018, the investments will enable us to sustain production of our Pilbara Blend™ and Robe Valley products. All approvals have been received. Construction activities are progressing to plan with first ore expected in 2021.
Investment in Gudai-Darri (formerly Koodaideri), a new production hub in the Pilbara region of Western Australia, to sustain existing production in our iron ore system.	\$2.6bn	Approved in November 2018, the investment incorporates a processing plant and infrastructure including a 166-kilometre rail line connecting the mine to our existing network. Key construction activities are on schedule and we expect production to ramp up in 2022. Once complete, the mine will have an initial annual capacity of 43 million tonnes.
Investment in the Greater Tom Price operations (Western Turner Syncline phase 2) to sustain production capacity.	\$0.8bn	Approved in November 2019, the investment will facilitate mining of existing and new deposits. It includes construction of a new crusher and a 13-kilometre conveyor. First ore from the crusher is expected in 2021.
Aluminium		
Investment in a second tunnel at the 1000MW Kemano hydropower facility at Kitimat, British Columbia, Canada, which will ensure the long-term reliability of the power supply to the Kitimat smelter.	\$0.6bn	The project was approved in 2017, with \$155 million of additional capital approved in 2020. It was impacted by the departure of the main contractor in the first half of 2020. Tunnel excavation works restarted in September. However, due to the escalation of COVID-19 in the province, tunnel excavation works have been interrupted. We expect to restart late in the first quarter of 2021.
Copper & Diamonds		
Investment in the south wall pushback, to extend mine life at Kennecott, Utah, US, from 2019 to 2026.	\$0.9bn	Funding for the continuation of open pit mining via the push back of the south wall: the project largely consists of simple mine stripping activities.
Phase two of the south wall pushback to extend mine life at Kennecott by a further six years.	\$1.5bn	Approved in December 2019, the investment will further extend strip waste rock mining and support additional infrastructure development. This will allow mining to continue into a new area of the orebody between 2026 and 2032.
Development of the Oyu Tolgoi underground copper/gold mine in Mongolia (Rio Tinto 34%), which is expected to produce 480,000 tonnes ¹ of copper per year on average from 2028 to 2036 (open pit and underground), compared with 149,600 tonnes in 2020 (open pit).	\$6.75bn ²	The project was originally approved in May 2016 for \$5.3bn, with an additional \$1.45 billion approval by the Rio Tinto Board in December 2020, following completion of the definitive estimate. Sustainable production for Panel 0 is expected to be achieved by October 2022. ²
Energy & Minerals		
Development of the Zulti South project at Richards Bay Minerals (RBM) in South Africa (Rio Tinto 74%), to sustain current capacity and extend mine life.	\$0.5bn	Approved in April 2019, the investment will underpin RBM's supply of zircon and ilmenite over the life of the mine. Construction remains on full suspension, pending normalisation of operations.

1. This target (stated as recovered metal) for the Oyu Tolgoi underground and open pit mines was previously reported in a release to the market on 16 December 2020 (market release). All material assumptions underpinning the production target continue to apply and have not materially changed.
2. These estimates include the known impacts of COVID-19. The definitive estimate assumes restrictions in 2021 that are no more stringent than those experienced in September 2020. Mongolia implemented further restrictions at the end of 2020 in response to a re-emergence of COVID-19. Should COVID-19 constraints be maintained at December 2020 levels, escalate further in 2021 leading to tougher restrictions, or continue beyond 2021, additional costs and schedule impacts will arise.

Material acquisitions and divestments

Asset	Consideration \$m	Status
Divested in 2019		
Rössing Uranium	6.5 ^(b)	Sold to China National Uranium Corporation Limited
Divested in 2018		
Hail Creek	1,550 ^{(a)(c)}	Sold to Glencore
Kestrel	2,250 ^(a)	Sold to a consortium consisting of EMR Capital and PT Adaro Energy Tbk
Aluminium Dunkerque	500 ^(a)	Sold to Liberty House
Grasberg	3,500 ^{(a)(d)}	Sold to PT Indonesia Asahan Aluminium (Persero) (Inalum)

(a) Before working capital and completion adjustments.

(b) Gross cash sales proceeds, excluding cash held by Rössing included within the transaction and transaction costs. Excludes the contingent payment of up to US\$100 million linked to uranium spot prices and Rössing's net income during the next seven calendar years.

(c) Excluding proceeds related to sale of Valeria coal development project of \$150 million (before working capital adjustments).

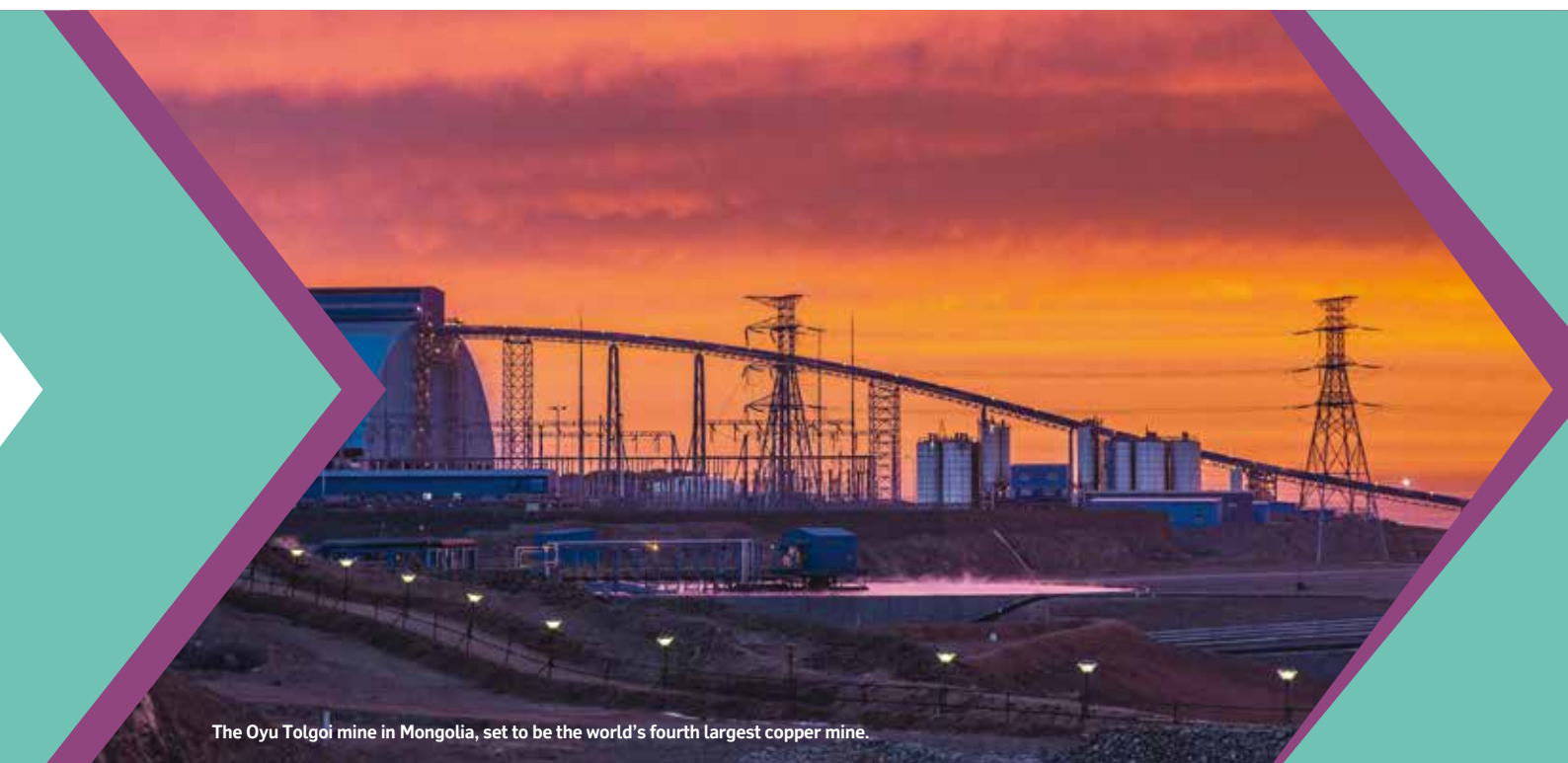
(d) Including a payment received of \$107 million in respect of our share of Grasberg's copper and gold revenues, net of our capital contribution for the year.

There were no disposals in 2020. Over the last three years, we have made no material acquisitions.

Further information on acquisitions and divestments is included in note 36 ^{AR} to the financial statements on page 268 ^{AR}.

Business Development

In 2020, we continued to progress important growth opportunities and projects, to bring to market materials critical to the transition to a low-carbon economy: copper, lithium and iron ore, among others.



The Oyu Tolgoi mine in Mongolia, set to be the world's fourth largest copper mine.

Oyu Tolgoi underground project: Mongolia, Copper

In 2020, we progressed the underground project despite restrictions from COVID-19 controls and ongoing international travel restrictions. In December 2020, we confirmed the definitive estimate of cost and schedule for Panel 0 with sustainable production expected to commence in October 2022 and development capital of \$6.75 billion¹, in line with the ranges first announced in July 2019. These estimates include the known impacts of COVID-19². Oyu Tolgoi is expected to produce 480,000 tonnes³ of copper per year on average, from 2028-36, from the open pit and underground.

We consider that additional milestones need to be met in order to ensure that the project can commence caving operations in 2021: outstanding government approvals – including registering the updated Resources and Reserves submitted in February 2020 and accepting the updated feasibility study completed in July 2020 in accordance with the 2009 Investment Agreement and Mongolian regulation; funding as agreed with Turquoise Hill Resources (TRQ) in a Memorandum of Understanding in September 2020; and achieving the power milestones agreed with the Government of Mongolia in June 2020. We continue to work closely with our partners, the government of Mongolia and TRQ, in the coming months to finalise these milestones, as outlined in our 16 December announcement.

On 22 December, Oyu Tolgoi received a tax assessment for approximately \$228 million from the Mongolian Tax Authority, relating to an audit of taxes paid between 2016 and 2018. This assessment is in addition to \$752 million of taxes and royalties paid in the same period. Oyu Tolgoi's application to include these matters in the pending international arbitration related to 2013 to 2015 has been accepted.

On 4 January 2021, the government of Mongolia advised Rio Tinto that they were dissatisfied with the results of the definitive estimate and the funding implications for the sharing of economic benefits between the shareholders of Oyu Tolgoi. We are engaging with the government of Mongolia in relation to the definitive estimate.

We are in active discussions with the government of Mongolia to address and close all outstanding issues and increase the project's benefits to all stakeholders.

1. This estimate is at a 'better than feasibility study' level of accuracy.

2. The definitive estimate assumes restrictions in 2021 that are no more stringent than those experienced in September 2020. Mongolia implemented further restrictions at the end of 2020 in response to a re-emergence of COVID-19. Should COVID-19 constraints be maintained at December 2020 levels, escalate further in 2021 leading to tougher restrictions, or continue beyond 2021, additional costs and schedule impacts will arise.

3. This production target (stated as recovered metal) for the Oyu Tolgoi underground and open pit mines was previously reported in a release to the market on 16 December 2020 (market release). All material assumptions underpinning the production target continue to apply and have not materially changed.

Resolution Copper Project: Arizona, Copper

At our Resolution Copper project, in Arizona, US, we recognise the historical connection that each of the 11 consulting Native American Tribes has with the land. We acknowledge the significance of these connections, which have endured over centuries. We strive to build constructive relationships with each Tribe based on mutual respect, meaningful engagement, trust, mutual understanding and mutual benefit. We will continue to listen to the perspectives and concerns of each Tribe throughout the life of the project.

Over the last two decades, archaeological reports, ethnographic and ethnohistoric studies and tribal perspective reports have been produced in partnership with Tribes and the US Forest Service to identify places, areas, artefacts and natural features of importance. We have also produced more than 150 cultural baseline reports, incorporating all elements of the landscape and conducted with tribal members trained under the Tribal Monitoring Program. The Tribal Monitoring Program is a first-of-its-kind program for the US Forest Service, employing more than 30 members from seven consulting Tribes working alongside archeologists.

In January 2021, the US Forest Service published the Final Environmental Impact Statement (FEIS) for Resolution Copper. The publication reflects a delay from the July 2020 target date, set by the Obama Administration, and comes after more than seven years of public and 11 years of tribal consultation. Resolution Copper has not applied or taken advantage of programmes to expedite or 'fast-track' the permitting process.

There are multiple moments in the formulation of a project and during its operation in which innovation and adjustments are possible. Opportunities to reduce impacts, where possible, will be an objective of future studies. We are committed to ongoing stakeholder engagement in our effort to seek consent to progress the project, consistent with the International Council on Mining and Metals (ICMM) Statement on Indigenous Peoples and Mining.

Gudai-Darri: Western Australia, Iron Ore

At Gudai-Darri (formerly Koodaideri), set to be our most technologically advanced mine, construction is progressing on track with the expected production ramp-up in early 2022.

This year, we announced the opening of a new airport, which is expected to handle more than 600 workers a day at peak operating times. The airport will help strengthen site safety by minimising mine employees' exposure to driving and vehicle transport while also reducing the hours they are required to travel from an alternate airport, reducing fatigue. The airport will also provide a safer landing option for the Royal Flying Doctor Service, our longstanding partner.

We built Western Australia's largest steel beam bridge to carry Great Northern Highway traffic over Gudai-Darri's train line. Rail formation works are on target and track-laying also began in the fourth quarter of 2020.

We completed the studies for the 34MW solar plant at Gudai-Darri and commence construction in 2021. This will consist of about 100,000 solar panels made up of photovoltaic cells to convert sunlight into electricity. On average, the solar plant is expected to supply all of Gudai-Darri's electricity demand during peak solar power generation times and approximately 65% of the mine's

average electricity demand. With a new lithium-ion battery energy storage system, the solar plant could reduce our annual carbon dioxide emissions by an estimated 90,000 tonnes compared to conventional gas-powered generation. This is the equivalent of taking about 28,000 cars off the road.

Importantly, growth at Gudai-Darri progresses with the community in mind: to date, the project has awarded local businesses – including Pilbara, Pilbara Aboriginal and Western Australia-based businesses – contracts valued at more than A\$1.1 billion, supporting approximately 2,000 jobs in the construction phase.

Simandou: Guinea, Iron Ore

Simandou contains one of the world's largest and richest high-grade iron ore deposits, demand for which is increasing as steelmakers look to reduce carbon emissions.

Simandou broadens our global portfolio of iron ore products and complements the long-term attractiveness of our Pilbara Blend™. We remain committed to Simandou and to delivering its benefits to our partners as well as to local communities and the people of Guinea.

In 2020, work continued on the technical optimisation of the Simandou project with the support of China-based institutions and business partners, as well as preparatory work and activities related to the project's Social and Environmental Impact Assessment. Engagement continued with the government of Guinea about potential mechanisms for collaboration on infrastructure development.

Winu: Western Australia, Copper

At our Winu project in Western Australia, we are actively engaging with Traditional Owners through on-Country heritage surveys, monitoring and agreement making, which is expected to continue into 2021, with first ore expected in 2024, subject to regulatory approvals, Traditional Owner and other consents and COVID-19 restrictions.

Drilling results at Ngapakarra, about two kilometres east of Winu, provide further encouragement about the potential to develop multiple orebodies in the district. We have explored only a small percentage of our tenements in the Paterson region of Western Australia so far, which includes both our 100% owned tenements and joint ventures.

Jadar: Serbia, Lithium

This year, we approved an additional investment of almost \$200 million to continue to progress the lithium-borate Jadar project. The investment will fund the feasibility study and associated engineering, as well as permitting and land acquisition by the end of 2021, in line with the initial project schedule.

The Jadar deposit contains high-grade mineralisation of boron and lithium (Jadarite) and has the potential to produce both battery-grade lithium carbonate and boric acid. The deposit is located on the doorstep of the European Union, one of the fastest growing electric vehicle markets in the world. Jadarite was discovered in 2004 by Rio Tinto geologists near the city of Loznica, Serbia.

For further information on litigation and investigations related to Simandou and other matters, please refer to the "Contingent Liabilities" note on page 261 ^{AR} for further information.



The world – from bridges and skyscrapers
to cars and planes – is built on steel,
and steel is made from iron ore.

Iron Ore

Overview

In the Pilbara region of Western Australia, we operate an integrated portfolio of iron ore assets: a network of 16 iron ore mines, four port terminals, a 1,700-kilometre rail network and related infrastructure. We are one of the world's leading producers of iron ore.

Our Iron Ore product group includes Dampier Salt, also in Western Australia – the world's largest exporter of seaborne salt. Our fully integrated portfolio of quality assets, highly valued product suite and committed people and partners are key pillars of our value over volume strategy. Together, these allow us to export our products, including our flagship Pilbara Blend™, to our customers safely, reliably and efficiently.

We completed the studies for the 34MW solar plant at Gudai-Darri and commence construction in 2021. This will consist of about 100,000 solar panels made up of photovoltaic cells to convert sunlight into electricity. On average, the solar plant is expected to supply all of Gudai-Darri's electricity demand during peak solar power generation times and approximately 65% of the mine's average electricity demand. With a new lithium-ion battery energy storage system, the solar plant is estimated to reduce our annual carbon dioxide emissions by about 90,000 tonnes compared to conventional gas-powered generation.

This is the equivalent of taking about 28,000 cars off the road. Importantly, growth at Gudai-Darri progresses with the community in mind: to date, the project has awarded local businesses – including Pilbara, Pilbara Aboriginal and Western Australia-based businesses – contracts valued at more than A\$2.3 billion, supporting approximately 2,000 jobs in the construction phase.

We deeply regret the events at Juukan Gorge, near our Brockman mine in Western Australia, and have unreservedly apologised to the Puutu Kunti Kurrama and Pinikura (PKKP) people. The destruction of the rock shelters should not have happened, and we are absolutely committed to listening, learning and changing. Please refer to pages 10-11 to learn more about what we are doing to rebuild trust with our Indigenous partners and Traditional Owners.

Snapshot of the year

0.53

AIFR

(2019: 0.66)

\$27.5bn

gross product sales

(2019: \$24.1bn)

74%

Pilbara underlying
FOB EBITDA
margin

(2019: 72%)

\$13.2bn

net cash generated
from operating
activities

(2019: \$11.4bn)

Pilbara Iron Ore in figures

16

integrated mines in
Western Australia

5

mainstream iron ore
products

4

port terminals

3

solar salt operations

12%

of our residential
workforce is Pilbara
Aboriginal People*

13,600

employees (includes
temporary employees
and 100% of joint
venture operations)

1,700km

automated rail
network, including
AutoHaul™

330.6

million tonnes of iron
ore shipped

* Includes all Indigenous employees who live in the Pilbara and any other Indigenous employees, regardless of where they live, who are members of Traditional Owner groups that have opted in to Rio Tinto's Regional Framework Deed.

Iron Ore

continued

2020 year end results	2020	2019	Change
Pilbara production (million tonnes - 100%)	333.4	326.7	2%
Pilbara shipments (million tonnes - 100%)	330.6	327.4	1%
Salt production (million tonnes - Rio Tinto share) ¹	4.9	5.4	(10)%
Gross product sales (US\$ millions)	27,508	24,075	14%
Average realised price (US\$ per dry metric tonne)	98.9	85.9	15%
Underlying EBITDA (US\$ millions)	18,837	16,098	17%
Pilbara underlying FOB EBITDA margin ²	74%	72%	
Underlying earnings (US\$ millions)	11,398	9,638	18%
Net cash generated from operating activities (US\$ millions)	13,218	11,420	16%
Capital expenditure (US\$ millions) ³	(2,941)	(1,741)	69%
Free cash flow (US\$ millions)	10,233	9,601	7%
Return on capital employed ⁴	74%	67%	

1. Dampier Salt is reported within Iron Ore, reflecting management responsibility. Iron Ore Company of Canada and the Simandou iron ore project in Guinea continue to be reported within Energy & Minerals.

2. The Pilbara underlying free on board (FOB) EBITDA margin is defined as Pilbara underlying EBITDA divided by Pilbara revenues, excluding freight revenue.

3. Capital expenditure is the net cash outflow on purchases less sales of property, plant and equipment, capitalised evaluation costs and purchases less sales of other intangible assets.

4. Return on capital employed (ROCE) is defined as underlying earnings excluding net interest divided by average capital employed (operating assets).

Safety

In 2020, our Iron Ore operations continued to improve our safety culture as evidenced by the strong performance. We marked more than two years without a fatality and achieved a step change in safety performance with the injury rate and severity rate decreasing by 20% and 13%, respectively. The number of potentially fatal incidents continued to decline – approximately 29% lower, year on year.

We continue to remove or reduce our material risk exposure to eliminate fatalities at our operations. We have detailed improvement plans built against our safety maturity model. These focus on being a learning organisation, our leadership and engagement approach, risk management and our work planning. The delivery of these plans will support a sustained improvement towards our goal of zero harm.

During 2020, we responded to COVID-19 with a clear, nimble strategy, using our hierarchy of controls to manage the risks associated with the virus and keep people safe.

We took extensive measures to reduce virus transmission pathways, including travel restrictions, self-isolation, quarantine and physical distancing. We changed our rosters to minimise movement across operations and implemented additional cleaning and sanitisation. Rapid screening clinics were introduced at Perth and regional airports and our regional towns to reduce the risk of transmission.

Together, our employees and contractors, partners and host communities demonstrated commitment, resilience, innovation and collaboration in helping us to keep our operations strong and safe. Despite the pandemic we improved our overall safety performance.

In 2020, we also conducted a safety culture diagnostic to further mature our safety culture, with a focus on mindsets and behaviours through a leadership lens. Insights from the diagnostic and other assessments, combined with lessons from incidents, will continue to drive a targeted, problem-solving-based approach to ensure the health, safety, and wellbeing of our employees.

Financial performance

Our strong operational performance in the Pilbara in 2020 enabled us to take advantage of the rising price environment for our high-quality products. This price strength was driven by buoyant demand from China and constraints in global seaborne supply. We increased our iron ore shipments by 1% and production by 2% compared with 2019, whilst implementing strict measures to manage COVID-19.

Underlying EBITDA of \$18.8 billion was 17% higher than 2019, primarily reflective of higher prices, partially offset by rising unit costs. The monthly average Platts index for 62% iron fines adjusted to an FOB basis was 19% higher than 2019. Higher realised prices increased underlying EBITDA by \$3.2 billion, while a stronger Australian dollar reduced underlying EBITDA by \$0.3 billion.

2020 Pilbara unit cash costs, which were \$15.4 per tonne (2019: \$14.4 per tonne), include \$0.6 per tonne of COVID-19 costs, which relate to the controls we have put in place to keep our people safe such as additional cleaning and flights, screening and roster changes. We experienced a higher monthly volatility in the iron ore price and an appreciation in the Australian dollar at year end. This triggered exchange and related effects, including losses on receivables, which added a net \$0.4 per tonne to unit cash costs in 2020. A significant majority of our Pilbara operating costs (excluding freight and royalties) are denominated in Australian dollars. We also experienced a higher mining work effort from longer haul distances, below water table mining and increased maintenance activity which we offset through productivity gains from increased automation and lower fuel prices. Overall, underlying unit cash costs were stable year on year, excluding the impact of foreign exchange and COVID-19 costs.

We have continued investing in productivity and automation and are now seeing an improved effectiveness of our integrated system: around 60% of our truck fleet in the Pilbara is now fully autonomous. We have a pathway that will see around two thirds of the fleet being automated by the end of 2021.

Our Pilbara operations delivered an underlying FOB EBITDA margin of 74%, compared with 72% in 2019.

We price the majority of our iron ore sales (77%) by reference to the average index price for the month of shipment. In 2020, we priced approximately 13% of sales by reference to the prior quarter's average index lagged by one month with the remainder sold either on current quarter average, current month average or on the spot market. We made approximately 70% of sales including freight and 30% on an FOB basis.

We achieved an average iron ore price of \$91.0 per wet metric tonne on an FOB basis (2019: \$79.0 per wet metric tonne) across our product suite. This equates to \$98.9 per dry metric tonne, assuming 8% moisture (2019: \$85.9 per dry metric tonne), which compares with the monthly average Platts index for 62% iron fines converted to an FOB basis of \$101.3 per dry metric tonne (2019: \$84.9 per dry metric tonne). The slightly lower realised price compared to the Platts index was due to lower market premiums for lump and the effect of the sales priced by reference to the prior quarter's average index lagged by one month in a rising price environment throughout 2020.

Gross product sales for our Pilbara operations included freight revenue of \$1.5 billion (2019: \$1.7 billion).

Net cash generated from operating activities of \$13.2 billion was 16% higher than 2019, in line with the increase in underlying EBITDA.

The \$10.2 billion of free cash flow was 7% higher than 2019, reflecting a 69% increase in capital spend, mainly related to the ramp-up of construction activity at the new Gudai-Darri hub.

Review of operations

We achieved a strong operating performance across the network in 2020, managing the challenges of weather disruptions and the implementation of strict measures to manage COVID-19. Our Pilbara operations produced 333.4 million tonnes (our share 275.5 million tonnes), 2% higher than 2019, underpinned by record total material moved for the year, 7% higher than the previous record set in 2019, highlighting the improvements to mine and asset health.

2020 shipments of 330.6 million tonnes (our share 273.1 million tonnes), which were 1% higher than 2019, were impacted by Cyclone Damien in the first quarter and by COVID-19, which also resulted in the deferral of maintenance at the port to the third quarter. We continue to ramp up our port sales in China, with 5.5 million tonnes of sales in 2020. Our portside operation handles product from our operations in the Pilbara and in Canada, as well as third-party product, and provides blending and screening capabilities.

Following the events at Juukan Gorge, we continue to reassess all activities which have the potential to impact heritage sites. We will continue to review mine plans to ensure the protection of sites of exceptional cultural value and have increased monitoring of operating activities that have the potential to impact heritage sites. We have also integrated heritage management into our mining operations – our Iron Ore business now has primary responsibility for our Communities and Social Performance partnerships and engagement.

Pilbara shipments

(million tonnes – 100% basis)

2016	327.6
2017	330.1
2018	338.2
2019	327.4
2020	330.6

New projects and growth options

We are progressing our \$2.6 billion Gudai-Darri iron ore mine, with key construction activities on schedule. This new production hub will be our most technologically advanced, incorporating a processing plant and infrastructure including an airport, camp and a 166-kilometre rail line connecting the mine to our existing network. We continue to anticipate production to ramp up in early 2022. Once fully commissioned, the initial mine development will have an annual capacity of 43 million tonnes. This will increase the lump to fines ratio in our Pilbara Blend shipments to 38%.

We have multiple project scopes under study for Gudai-Darri Phase 2, following Board approval for a \$44 million pre-feasibility study. Ultimately, the capacity of the hub could be up to 70 million tonnes per year, depending on market conditions.

We are also investing \$1.55 billion with our joint venture partners, Mitsui and Nippon Steel, (our 53% share is \$820 million) at the Robe Valley and West Angelas operations. We have received all required approvals, and procurement and construction activities are progressing well. We anticipate first ore from these projects in 2021.

Our \$749 million investment in the Western Turner Syncline phase 2 mine, part of Greater Tom Price operations, will facilitate mining of new deposits and includes construction of a new crusher and a 13-kilometre conveyor. First ore is expected in 2021.

Greenhouse gas emissions

In 2020, Iron Ore's absolute greenhouse gas emissions were 3Mt CO₂-e (on an equity basis), an increase of 0.3Mt CO₂-e compared to the 2018 emissions baseline, driven by an increase in diesel emissions due to increased haul distances and material movement.

In the short to medium term, abatement opportunities relate to the deployment of renewable power projects. A range of renewable energy studies are underway to support a transition from using natural gas to power our operations, while longer-term works natural transitioning the mobile mining fleet from diesel to alternative energies. The transition from traditional fuels in mining will require technical and economic developments in renewable energy, alternative fuels and energy transfer systems.

Construction of the company's first 34 MW solar PV plant at the Gudai-Darri mine is anticipated to be completed by the end of 2021. In addition, we expect to commission a 12MW/h battery energy storage system to strengthen the security and reliability of our Pilbara power network. The solar plant and battery systems are estimated to reduce carbon dioxide emissions by approximately 90,000 tonnes per year.

Rio Tinto also committed \$10 million over the next two years with the world's largest steel producer, China Baowu Steel Group, to support low-carbon steelmaking projects and research. This investment is the next step in advancing our partnership with China Baowu and Tsinghua University, announced in 2019, and will fund the establishment of a Low Carbon Raw Materials Preparation R&D Centre, which will initially prioritise the development of lower carbon ore preparation processes. Rio Tinto also strengthened our partnership with Tsinghua University, committing a further \$4.5 million over the next five years to support research projects at the Tsinghua-Rio Tinto Joint Research Centre for Resources, Energy and Sustainable Development. We also signed a Memorandum of Understanding with Nippon Steel Corporation, Japan's largest steel producer, to jointly explore, develop and demonstrate technologies to transition to a low-carbon emissions steel value chain.



Beverage cans are just one place you
can find our infinitely recyclable,
low-carbon Canadian aluminium.

Aluminium

Overview

We are a global leader in aluminium, with a large-scale, vertically-integrated business: bauxite mines and alumina refineries as well as smelters producing aluminium certified as responsible. Managing the process from start to finish allows us to deliver high-quality products to our customers, reliably and efficiently: from high-grade bauxite for the global seaborne trade to sustainably sourced aluminium for beverage packaging to new, lighter alloys for the automotive industry.

Our Canadian operations average in the first decile of the industry cost-curve and produce primary metal using clean, renewable hydropower. In 2018, we became the first company to offer aluminium certified as responsible by the Aluminium Stewardship Initiative (ASI), meaning it meets the highest environmental, social and governance standards.

In 2020, we announced a global partnership with AB InBev, the world's largest beer brewer. Initially focused on North America, the partnership will see us provide low-carbon aluminium for AB InBev's beer cans.

We also announced an investment in a new remelt furnace at our Laterrière casting centre, and a partnership with Shawinigan Aluminium Inc., both in Canada, to offer our US and Canadian customers high-quality alloys made with recycled scrap, starting in 2021.

ELYSIS – our partnership with Alcoa, supported by Apple and the governments of Canada and Quebec – completed its Research & Development Centre in the Saguenay, in Quebec, Canada, where it will continue to develop smelting technology free of direct carbon emissions.

In 2021, we launched StaRT™, the first sustainability label for aluminium, which will be delivered to customers using blockchain technology. This 'nutrition label' for aluminium will provide key information about where and how the aluminium was produced, covering ten criteria: carbon footprint, water management, renewable energy, recycled content, waste management, safety performance, contribution to communities, supplier due diligence, governance systems and diversity. The blockchain technology will enable traceability, helping customers and consumers make informed choices about the products they buy.

Snapshot of the year

0.36

AIFR

(2019: 0.46)

\$9.3bn

gross product sales

(2019: \$10.3bn)

26%

underlying EBITDA
margin from
integrated operations

(2019: 26%)

\$1.9bn

net cash generated
from operating
activities

(2019: \$2.2bn)

Aluminium in figures

4

bauxite mines
in Australia, Brazil and
Guinea

4

alumina refineries
in Australia, Brazil and
Canada

14

aluminium smelters
in Canada, Australia,
New Zealand, Iceland
and Oman

14,000

employees

3

research and
development centres
in Canada, France and
Australia

22

sites certified
responsible by
the Aluminium
Stewardship Initiative
(ASI)

7

hydropower plants
supplying 100% of
the electricity we use
in Canada

Aluminium

continued

2020 year end results	2020	2019	Change
Bauxite production (000 tonnes - Rio Tinto share)	56,131	55,105	2%
Alumina production (000 tonnes - Rio Tinto share)	8,039	7,744	4%
Aluminium production (000 tonnes - Rio Tinto share)	3,180	3,171	—%
Gross product sales (US\$ millions)	9,314	10,340	(10)%
Average realised aluminium price (US\$ per tonne)	1,946	2,132	(9)%
Underlying EBITDA (US\$ millions)	2,152	2,285	(6)%
Underlying EBITDA margin (integrated operations)	26%	26%	
Underlying earnings (US\$ millions) ¹	471	599	(21)%
Net cash generated from operating activities (US\$ millions)	1,930	2,183	(12)%
Capital expenditure - excluding EAUs (US\$ millions) ²	(1,009)	(1,316)	(23)%
Free cash flow (US\$ millions)	892	821	9%
Return on capital employed ³	3%	4%	

1. Underlying earnings includes a \$0.2 billion charge in 2020 for the partial de-recognition of deferred tax assets in Australia.

2. Capital expenditure is the net cash outflow on purchases less sales of property, plant and equipment, capitalised evaluation costs and purchases less sales of other intangible assets. It excludes equity accounted units (EAUs).

3. Return on capital employed (ROCE) is defined as underlying earnings excluding net interest divided by average capital employed (operating assets).

Safety

2020 marked the sixth consecutive fatality-free year for our Aluminium product group, and we finished the year with an AIFR of 0.36, a significant improvement compared to 2019 (0.46).

We continued improving the safety maturity of our sites with a strong emphasis on leadership coaching and critical risk management. In 2020, we completed over 257,000 verifications on critical controls including more than 40,000 verifications specific to COVID-19. We also progressed a programme to reduce vehicle-pedestrian risks, including the implementation of a pedestrian proximity detection system in our smelters.

We further enhanced our management of major hazards by improving the way we report and learn from process safety incidents. We also strengthened governance of critical controls across process safety, tailings and water dams.

We are progressing our five-year plan to reduce health risk exposures by improving monitoring and implementing engineering controls, such as ventilation.

During the year, we increased our focus on mental health and raised awareness of our employee assistance programme to better support our employees and their families during COVID-19, and supported local communities in their implementation of COVID-19 safety measures.

Financial performance

Our aluminium business was resilient in 2020, despite significantly lower sales prices and reduced demand for value-added product (VAP), driven by market conditions from the impact of COVID-19. Markets were particularly challenging for aluminium metal where global demand for primary aluminium declined by approximately 3% and global supply was largely unchanged. However, our focus on operational stability, resilience through COVID-19 and cash flow generation, enabled us to deliver solid underlying EBITDA and strong cash flows.

Underlying EBITDA of \$2.2 billion declined by just \$0.1 billion, 6% lower than 2019, despite the weaker pricing environment, which impacted underlying EBITDA by \$0.3 billion. We were able to offset most of the pricing impact through operational improvements and productivity gains, along with lower prices for our inputs, which totalled \$0.3 billion. These included raw material efficiencies, reduced energy costs and lower input prices, primarily for caustic soda and petroleum coke. This enabled us to maintain our industry-leading underlying EBITDA margin at 26%, in line with 2019.

We achieved an average realised aluminium price of \$1,946 per tonne, 9% lower than 2019 (\$2,132 per tonne). This comprised the LME price, a market premium and a product (VAP) premium. The cash LME price averaged \$1,702 per tonne, 5% lower than 2019, even after a sharp recovery in the second half of 2020. In our key US market, the midwest premium dropped 2% to \$313 per tonne on average in 2020. VAP represented 43% of the primary metal we sold, in line with market demand (2019: 51%), and generated product premiums averaging \$213 per tonne of VAP sold (2019: \$234 per tonne). Market demand for VAP rebounded in the fourth quarter of 2020, returning to normal levels.

Although we are broadly balanced in alumina, approximately 2.2 million tonnes of our legacy alumina sales contracts are exposed to a fixed linkage to the LME price. These contracts date back to 2005 or earlier, and the majority expire between 2023 and 2030. In 2020, the opportunity loss was \$0.1 billion, compared with \$0.2 billion in 2019.

Despite the significantly weaker market environment, we generated \$1.9 billion in net cash from operating activities with free cash flow increasing by 9% to \$0.9 billion. This was underpinned by productivity improvements, lower costs, reductions in working capital in the year and lower capital expenditure.

Review of operations

Bauxite production of 56.1 million tonnes was 2% higher than 2019 supported by the ramp-up of the expansion at the CBG mine in Guinea, and steady performance at the Pacific mines, including additional volumes from the start-up of the Amrun mine in 2019.

We shipped 39.4 million tonnes of bauxite to third parties, 1% lower than in 2019. Shipments were prioritised throughout the year to align with customer needs, with a higher proportion of internal shipments to our Pacific refineries.

In 2020, gross product sales for bauxite declined 8% to \$2.3 billion – this includes freight revenue of \$423 million (2019: \$464 million).

Alumina production of 8.0 million tonnes was 4% higher than 2019, as a result of strong production at both our Pacific refineries.

Aluminium production of 3.2 million tonnes was in line with 2019, with lower volumes from the curtailment of Line 4 at the Tiwai Point smelter in New Zealand and from the Kitimat smelter pot relining campaign, offset by the ramp-up of the Becancour smelter in Quebec following its restart after a lockout at the end of 2019.

In January 2021, we reached agreement on a new electricity supply with Meridian Energy that allows New Zealand Aluminium Smelter (NZAS) to continue operating the Tiwai Point smelter until December 2024. This extension of operations provides certainty to employees, the local community and customers while providing more time for all stakeholders to plan for the future.

On 15 February 2021, we reached agreement on an amended power contract with the energy supplier, Landsvirkjun, that will allow the ISAL aluminium smelter in Iceland to continue operating with an improved competitive position. We have withdrawn our complaint filed with the Icelandic Competition Authority.

New projects and growth options

At the Kemano project in Kitimat, British Columbia, we are constructing a second tunnel to de-risk our 100% owned hydropower facility. The project was originally approved in 2017, with \$155 million of additional capital approved in 2020, bringing the total to \$630 million. It was impacted by the departure of the main contractor in the first half of 2020. Tunnel excavation works restarted in September. However, due to the escalation of COVID-19 in the province, tunnel excavation works have been interrupted. We expect to restart late in the first quarter of 2021.

ELYSIS, our joint venture with Alcoa, supported by Apple and the governments of Canada and Quebec, is developing a breakthrough technology that eliminates all direct greenhouse gases from the traditional aluminium smelting process. In December 2020, we

announced that construction of the ELYSIS Industrial Research and Development (R&D) Centre at our Complexe Jonquière in the Saguenay, Quebec was complete. This new centre will produce metal at a similar scale to smaller, industrial-sized smelting cells that are in operation by some producers today. Commissioning of the Industrial R&D Centre is underway.

Greenhouse gas emissions

In 2020, our Aluminium product group's absolute greenhouse gas emissions (21.8 MtCO₂e) were 1.3% lower than the 2018 equity baseline (22.1 MtCO₂e). Contributions to this improvement included smelting process changes and the increased use of hydroelectric boilers in refining. These improvements were delivered while increasing bauxite production by 12%, maintaining alumina production and reducing production slightly across the smelting portfolio compared to the 2018 baseline.

The 2020 emissions intensity of our managed Atlantic Operations smelters, powered by hydroelectricity, was 2.13 tCO₂e per tonne of aluminium – less than one-fifth of the industry average – while our Vaudreuil alumina refinery has the lowest carbon footprint in the world today.

Third-party bauxite shipments

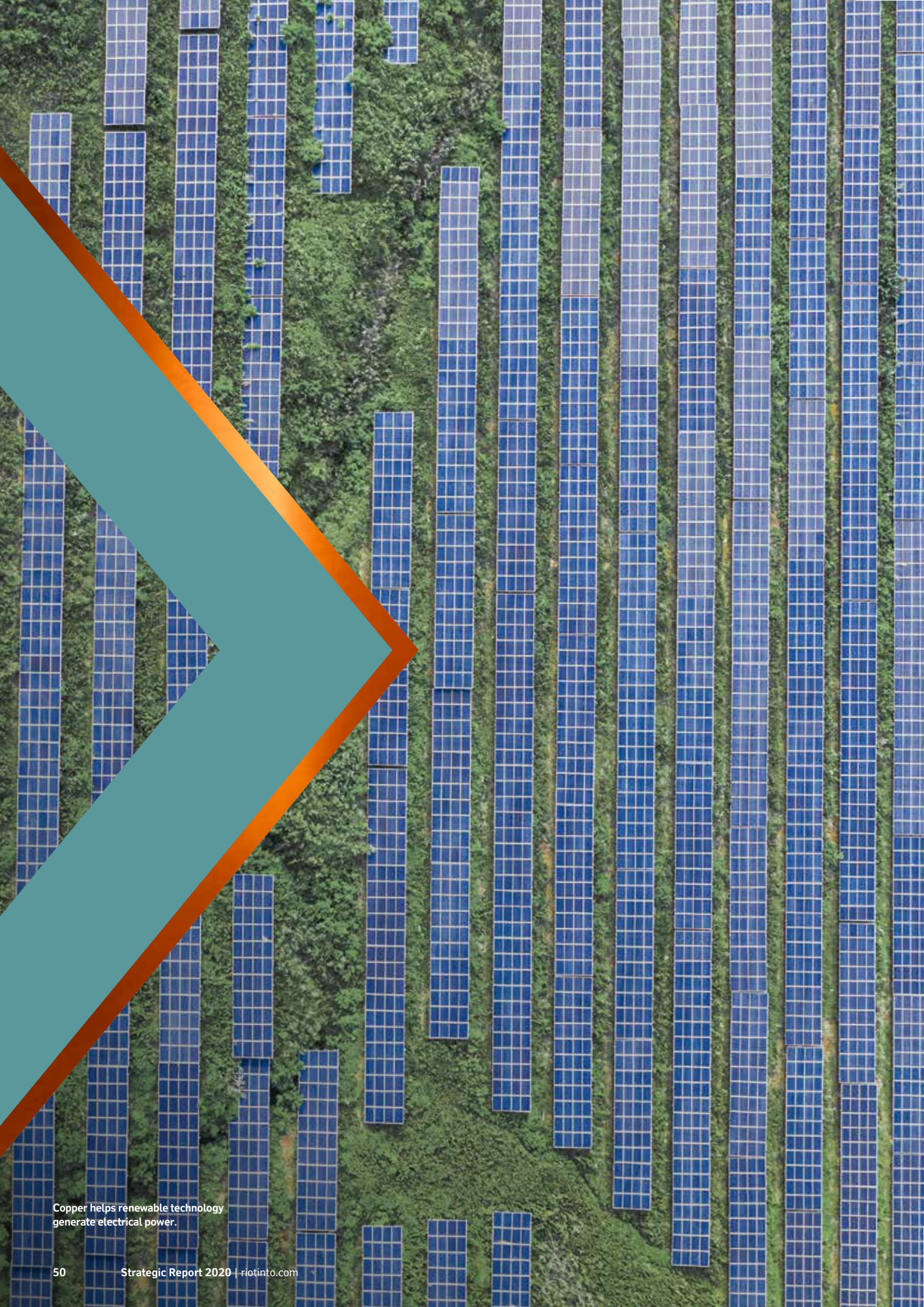
(million tonnes – Rio Tinto share)

2016	29.3
2017	32.3
2018	32.8
2019	39.6
2020	39.4

Aluminium production

(thousand tonnes – Rio Tinto share)

2016	3,366
2017	3,267
2018	3,231
2019	3,171
2020	3,180



Copper helps renewable technology
generate electrical power.

Copper & Diamonds

Overview

Our copper and diamond businesses share a rich expertise in underground mining processes and technology. Combined with our strong people focus, this allows us to relentlessly prioritise safety and continue to be a profitable, future-ready, sustainability-driven product group.

Copper

Global demand for copper is set to grow, driven by urbanisation, industrialisation and increasing use of renewable energy. Alongside copper, we also produce gold, silver, molybdenum and other materials such as rhenium, supplying customers in China, Japan and the US.

Our Resolution Copper project in Arizona, US, is one of the world's largest undeveloped copper deposits with the potential to supply up to one quarter of American copper demand annually.

Through consultation, collaboration and coordination with regulatory agencies, communities and the region's Native American Tribes, we have made significant changes to the project design: we created the Emory Oak Restoration & Conservation Program, a partnership led by the Western Apache with the US Forest Service (USFS), Northern Arizona University, and Resolution Copper to reinvigorate Emory Oak trees across Arizona. We will also protect Apache Leap, a site sacred to Apache Tribes, through the Apache Leap Special Management Area.

Resolution Copper also has benefits for the wider community: today, we directly employ roughly 600 employees and contractors, more than half of whom live less than 40 miles away. At full production, it will support approximately 3,700 direct and indirect jobs. Following completion of a land exchange, agreements with the federal government and others will increase the amount of land under public ownership and management across Arizona, including areas of high cultural significance as well as areas important to regional biodiversity and recreation.

Diamonds

In November 2020, after 37 years, our Argyle diamond mine ceased production. We are committed to closing the mine responsibly, continuing to manage our Diavik operation and remaining active in diamond exploration with Canada as our target geography.

Snapshot of the year

0.30

AIFR

(2019: 0.29)

\$5.4bn

gross product sales

(2019: \$5.8bn)

47%

underlying EBITDA margin (product group operations)

(2019: 41%)

\$1.1bn

net cash generated from operating activities

(2019: \$1.5bn)

Copper & Diamonds in figures

3

copper operations in the US, Mongolia and Chile

3

copper growth projects in the US, Australia and Mongolia

2

diamond operations in Canada and Australia

7,800

employees

1st

mining company to be certified by the Responsible Jewellery Council

2

operations awarded the Copper Mark, verifying copper from Kennecott and Oyu Tolgoi is responsibly produced

6,200,000¹

pounds of copper scrap recycled at our Kennecott copper mine in the US

1. The furnace challenges at Kennecott increased capacity downstream in the smelter to re-process scrap into anodes and then cathode, and we took advantage of this by purchasing and reprocessing 6.2mn lbs of recycled metal within the year.

Copper & Diamonds

continued

2020 year end results	2020	2019	Change
Mined copper production (000 tonnes - Rio Tinto share)	527.9	577.4	(9)%
Refined copper production (000 tonnes - Rio Tinto share)	155.0	259.6	(40)%
Diamonds production (000 carats - Rio Tinto share)	14,676	17,030	(14)%
Gross product sales (US\$ millions)	5,428	5,815	(7)%
Average realised copper price (US cents per pound)	283	275	3%
Underlying EBITDA (US\$ millions)	2,172	2,073	5%
Underlying EBITDA margin (product group operations)	47%	41%	
Underlying earnings (US\$ millions)	763	554	38%
Net cash generated from operating activities (US\$ millions) ¹	1,064	1,505	(29)%
Capital expenditure - excluding EAUs ² (US\$ millions)	(1,686)	(1,772)	(5)%
Free cash flow (US\$ millions)	(637)	(284)	(124)%
Return on capital employed ³	6%	5%	

1. Net cash generated from operating activities excludes the operating cash flows of equity accounted units (EAUs) but includes dividends from EAUs (Escondida).

2. Capital expenditure is the net cash outflow on purchases less sales of property, plant and equipment, capitalised evaluation costs and purchases less sales of other intangible assets. It excludes EAUs.

3. Return on capital employed (ROCE) is defined as underlying earnings excluding net interest divided by average capital employed (operating assets).

Safety

This year, our Copper & Diamonds operations achieved a 39% year-on-year reduction in the number of potentially fatal incidents. However, we did have a permanent disabling injury at the Diavik Diamond Mine, in Canada. We recorded an all-injury frequency rate of 0.30, which is a leading safety performance.

This year, we also continued our focus on supporting the health and wellbeing of our employees, driving stronger risk and incident management, and sustaining improvements in safety. We recorded and shared nearly 300 improvement initiatives between our assets.

Our overall approach to the COVID-19 pandemic has been centred on protecting our employees and contractors from the virus, supporting mental wellbeing, and working together with local communities. The response measures implemented at each of our operations were based on risks specific to the asset and its employees, ensuring alignment with guidance from the relevant authorities at local and national levels.

Our Diavik Diamond Mine was the first operation within Rio Tinto to set up an on-site COVID-19 testing facility. Our Kennecott operation is conducting an average of 8,000 tests per month. Both contribute to the approximately 40,000 tests completed across our Copper & Diamonds operations in 2020. In addition to ensuring preparedness to various COVID-19 scenarios, we have taken a wide range of preventative measures, including rapid screening for employees and contractors, improved hygiene processes at sites and in offices, and adjusted roster arrangements, which has mitigated risks for our employees, contractors and communities.

Financial performance

In 2020, we increased underlying EBITDA despite lower revenues amidst a challenging year. It was a year of transition for our operational mine plans at Kennecott and Oyu Tolgoi, with a temporary reduction in copper and gold grades. Weak market conditions in the first half, COVID-19 restrictions and a 5.7 magnitude earthquake in Utah in March, were the principal external challenges. In addition, we incurred a delay in restarting the Kennecott smelter, following a planned shutdown.

A strong recovery in the copper price and fully operational Kennecott smelter by October, coupled with strong actions to address the headwinds, namely tight cost control and acceleration of access to higher gold grades at Oyu Tolgoi, led to a 5% increase in underlying EBITDA to \$2.2 billion, with margins rising to 47%.

Price movements for all products benefited underlying EBITDA by \$0.5 billion for the full year. Our average realised copper price increased by 3% to 283 US cents per pound. Other prices were mixed, with gold rising 27% to \$1,770 per ounce while our realised diamond prices declined by 21% on a weighted average basis. An unplanned flash converting furnace rebuild at Kennecott following the earthquake and delays in restarting the smelter following planned major maintenance after the

shutdown also impacted underlying EBITDA through reduced volumes, leading to fixed cost inefficiencies. This was partially offset by 82% higher molybdenum concentrate volumes at Kennecott, where we also realised some exports of copper concentrate into a strengthening market.

Our copper unit costs, at 111 cents per pound in 2020, were 20% higher than in 2019, due to lower copper grades at Kennecott and Escondida and delays in restarting the Kennecott smelter, driving lower volumes. This was partly offset by cost reduction programmes and higher by-product credits, with higher prices for gold and higher molybdenum volumes, due to improved grades, albeit at lower prices.

We continued to advance our future copper evaluation projects, in particular at Resolution Copper in Arizona and at Winu in Western Australia.

We generated \$1.1 billion in cash from our operating activities, a 29% decline on 2019, primarily driven by anticipated lower copper and gold grades, combined with the operational challenges at Kennecott. We also received \$0.1 billion lower dividends from our 30% equity holding in Escondida. Free cash flow was an outflow of \$0.6 billion reflecting the lower operating cash flow and a sustained level of capital investment (\$1.7 billion), mainly relating to the ongoing development of the Oyu Tolgoi underground project, where we have a 34% effective interest but fully consolidate on the basis of management control.

Review of operations

Mined copper, at 527.9 thousand tonnes, was 9% lower than 2019, primarily due to lower grades at Kennecott, as a result of planned pit sequencing, and lower grades and lower material moved at Escondida.

Kennecott

Mined copper production at Kennecott was 25% lower than 2019, due to a 28% reduction in grade and the optimisation of molybdenum ore during the extended shutdown of the smelter, which, in combination with higher molybdenum grades, led to an 82% increase in the production of molybdenum concentrate. Development in the pit progressed despite COVID-19 disruptions. We expect grades to gradually increase from 2021, as mining transitions from the east to the south wall.

Refined copper production was 54% lower than 2019 due to the rebuild of the flash converting furnace, required following the earthquake, and delays in restarting the smelter following planned major maintenance in mid-2020. The smelter was safely restarted and became fully operational in October.

Escondida

Escondida's mined copper production was 1% lower than 2019, mainly due to 15% lower material stacked onto the leaching pads. This was a result of preventive measures in response to COVID-19, which were mostly offset by 5% higher concentrator throughput in 2020. Refined copper was also impacted by lower material stacked onto the leach pads.

Oyu Tolgoi

Mined copper production from the open pit at Oyu Tolgoi was 2% higher than 2019, reflecting the anticipated move to higher grade areas, primarily due to accelerated mine development and production phasing. Access to higher copper and gold grades is expected to continue in 2021. We maintained shipments across the Chinese border despite COVID-19 measures in Mongolia and continue to work closely with the authorities to manage the risk of supply chain disruptions.

Diamonds

Diamond production was 14% lower than 2019, attributable to lower carats recovered at Diavik, where a 10% reduction in grade was partially offset by an increase in tonnes processed, and the closure of Argyle, as planned, on 3 November. We expect to take five years to decommission the Argyle mine and rehabilitate the area, followed by a further period of monitoring.

New projects and growth options – Oyu Tolgoi underground project

In 2020, we progressed the underground project despite restrictions from COVID-19 controls and ongoing international travel restrictions. The project has deployed mitigations that include extended on-site rosters, securing commitments from critical vendors to remain on site for extended periods and layered screening of personnel.

Overall underground lateral development has now reached 53,000 equivalent metres (eqm), with development for first drawbell substantially complete.

The project has now exceeded one million tonnes of material moved through shaft 2 since commissioning and the scheduled annual maintenance of the shaft was successfully completed in October 2020 using remote technology.

On 16 December, we confirmed the definitive estimate of cost and schedule for Panel 0 with sustainable production expected to commence in October 2022 and development capital of \$6.75 billion¹, in line with the ranges first announced in July 2019. These estimates include the known impacts of COVID-19.² Oyu Tolgoi is expected to produce 480,000 tonnes³ of copper per year on average, from 2028 to 2036, from the open pit and underground. The underground Ore Reserve has an average copper grade of 1.52%, which is more than three times higher than the open pit Ore Reserve, and contains 0.31 grammes of gold per tonne.⁴

Mined copper production

(000 tonnes – Rio Tinto share)

2016	523.3
2017	472.4
2018	607.6
2019	577.4
2020	527.9

Other new projects and growth options

The \$0.9 billion investment in phase one of the south wall pushback project at Kennecott, which will extend mine life to 2026, remains on track. We expect to gradually access higher grades made available from this project from 2021. The \$1.5 billion investment in phase two (stripping and additional infrastructure development), which is also on track, will allow mining to move into a new area of the ore body for a further six years. Both phases will continue to generate attractive returns for Kennecott.

At our Resolution Copper project in Arizona, the shaft 9 remediation and sinking project was completed in November, four months ahead of schedule and within budget. On 15 January 2021, we entered the next phase of public comment in the ongoing permitting process, led by the US Forest Service, with the release of its independently prepared Final Environmental Impact Statement (EIS).

At the 100% owned Winu copper-gold project in the Paterson Province of Western Australia, we disclosed the maiden Inferred Mineral Resource in July and revealed the discovery of a new zone of gold-dominant mineralisation approximately two kilometres east of the Winu deposit. The Inferred Mineral Resource, reported at a 0.2% copper equivalent cut-off, is 503 million tonnes at 0.45% copper equivalent (CuEq). This includes a higher grade component of 188 million tonnes at 0.68% CuEq at a cut-off grade of 0.45% CuEq.⁵ Drilling and fieldwork activities continue, with 90 kilometres of drilling completed in 2020. We are actively engaging with the Traditional Owners through on-country heritage surveys, monitoring and agreement making, which is expected to continue into 2021, with first ore now expected in 2024, subject to regulatory approvals, Traditional Owner and other consents and COVID-19 restrictions.

Greenhouse gas emissions

In 2020, our Copper & Diamonds product group's greenhouse gas emissions were 2.7Mt CO₂e (on an equity basis), a reduction of 0.9Mt CO₂e compared to our 2018 emissions baseline.

After discontinuing the use of a coal-fired power plant at Kennecott in 2019, all of the electricity purchased by Kennecott and our Resolution Copper project in 2020 was covered by the renewable energy certificates supplied by Rocky Mountain Power. These certificates offset the carbon emissions from all of the Scope 2 purchased electricity emissions in 2020 for both assets. The renewable energy certificate programme is Green-e Energy certified, and meets the environmental and consumer protection standards set by the Center for Resource Solutions.

Our diamond operations have reduced diesel usage through wind power at the Diavik Diamond Mine in northern Canada and hydropower at the Argyle mine in Western Australia. As part of our product group sustainability strategy, we continue to advance abatement options and technology to work towards ongoing emissions reductions.

1. This estimate is at a "better than feasibility study" level of accuracy.

2. The definitive estimate assumes restrictions in 2021 that are no more stringent than those experienced in September 2020. Mongolia implemented further restrictions at the end of 2020 in response to a re-emergence of COVID-19. Should COVID-19 constraints be maintained at December 2020 levels, escalate further in 2021 leading to tougher restrictions, or continue beyond 2021, additional costs and schedule impacts will arise.

3. This production target (stated as recovered metal) for the Oyu Tolgoi underground and open pit mines was previously reported in a release to the market on 16 December 2020 (market release). All material assumptions underpinning the production target continue to apply and have not materially changed.

4. This Ore Reserve estimate was set out in the Market release dated 16 December 2020. The Competent Persons responsible for the information in the Market release that relates to Ore Reserves were Mr Ferrin Prince and Mr Mark Bixley who are a Member and Fellow respectively of The Australasian Institute of Mining and Metallurgy. Rio Tinto confirms that it is not aware of any new information or data that materially affects the information included in the Market release, that all material assumptions and technical parameters underpinning the estimates in the Market release continue to apply and have not materially changed, and that the form and context in which the Competent Persons' findings are presented have not been materially modified.

5. Refer to the release to the ASX on 28 July 2020 "Rio Tinto reveals maiden Resource at Winu and new discovery". The Competent Person responsible for the information in that release that relates to Mineral Resources and Exploration Results is Dr Julian Verbeek. Rio Tinto confirms that it is not aware of any new information or data that materially affects the information included in the market announcement, that all material assumptions and technical parameters underpinning the estimates in the market announcement continue to apply and have not materially changed, and that the form and context in which the Competent Person's findings are presented have not been materially modified.



Borates, produced by our E&M product group, are used in space travel.

Energy & Minerals

Overview

Our Energy & Minerals portfolio includes a suite of global businesses – producing high-grade iron ore concentrate and pellets; titanium dioxide, rutile and zircon; borates and lithium; and uranium – that are each leaders in their respective industries, operating with innovation at their core and delivering to stakeholders and our shareholders.

High-grade iron ore

At the Iron Ore Company of Canada (IOC), we produce premium iron ore pellets and high-grade concentrate with low levels of impurities, enabling our customers to operate more productively, reduce emissions and produce higher-quality steel for the modern world. Located in north east Canada, IOC is a fully integrated business with mine, processing, railway, and port facilities able to optimise and deliver value. In 2020, we introduced autonomous electric drills, controlled remotely by operators at IOC's Integrated Operations Centre, after a successful initial pilot in 2019. These are some of the first of their kind to be used autonomously in North America.

Our Simandou iron ore joint-venture project in Guinea is one of the world's largest untapped and richest high-grade iron ore deposits, and complements our existing world-class iron ore portfolio. With an increasing focus on emissions and decarbonisation across the global steel industry, demand for high-grade ores is expected to continue to grow – and Simandou can be a key pillar for Rio Tinto's role in this transition. Work continues on the technical optimisation of the project, with preparatory activity for an update of the project's Environmental and Social Impact Assessment underway. We continue to engage with the government of Guinea about potential mechanisms for collaboration on infrastructure development.

TiO₂ & critical minerals

Our iron and titanium business is a major global producer of high-grade titanium dioxide with operations in Canada, Madagascar and South Africa. The nature of the orebodies allows us to produce by-products such as scandium and monazite. Monazite is a combination of rare earth elements such as neodymium used in powerful permanent magnets found in electric vehicle motors and wind turbine generators.

We have developed an innovative process to extract high-purity scandium oxide from waste generated by titanium dioxide production in Quebec, Canada. Scandium oxide is used to improve the performance of solid oxide fuel cells, a new clean energy technology used as a power source for data centres and hospitals. It is also used to produce high-performance aluminium-scandium master alloys for the aerospace, defence and 3-D printing industries.

Borates & lithium

Our borates business – U.S. Borax – supplies approximately 30% of the global demand for borates, used in everything from agriculture to fibreglass insulation and sanitation and is an input into personal care products, laundry detergents and industrial cleaning agents. At our Boron operations in California, US, we have built a demonstration plant to extract lithium as a by-product. This plant has the capacity to produce 10 tonnes per year of battery grade lithium-carbonate, used in rechargeable batteries for electric vehicles and consumer electronics.

In Serbia, we continue to progress Jadar, a unique, world-class lithium-borate deposit, with the project moving to the feasibility study stage in 2020. The project has the potential to supply the electric vehicle value chain for decades. An investment decision is due at the end of 2021.

Uranium

We also own interests in a uranium business – Energy Resources of Australia (ERA, 86.3%) – and a uranium project in Canada. ERA's processing operations ceased on 8 January 2021. A structured programme of progressive rehabilitation will be completed by 2026.

Snapshot of the year

0.41

AIFR

(2019: 0.43)

\$5.0bn

gross product sales

(2019: \$5.2bn)

35%

underlying EBITDA margin (product group operations)

(2019: 37%)

\$1.1bn

net cash generated from operating activities

(2019: \$1.4bn)

Energy & Minerals in figures

6

mining sites

7

processing plants

Operations in

6 countries

3

products

products from mining by-products

8,000 employees

Energy & Minerals

continued

2020 year end results	2020	2019	Change
Iron ore pellets and concentrates production ¹ (million tonnes - Rio Tinto share)	10.4	10.5	(1)%
Titanium dioxide slag production (000 tonnes - Rio Tinto share)	1,120	1,206	(7)%
Borates production (000 tonnes - Rio Tinto share)	480	520	(8)%
Uranium production (000 lbs - Rio Tinto share) ²	2,870	2,640	9%
Gross product sales (US\$ millions)	5,014	5,150	(3)%
Underlying EBITDA (US\$ millions)	1,646	1,762	(7)%
Underlying EBITDA margin (product group operations)	35%	37%	
Underlying earnings (US\$ millions)	577	611	(6)%
Net cash generated from operating activities (US\$ millions)	1,053	1,387	(24)%
Capital expenditure (US\$ millions) ³	(428)	(551)	(22)%
Free cash flow (US\$ millions)	604	817	(26)%
Return on capital employed ⁴	12%	15%	

1. Iron Ore Company of Canada and the Simandou iron ore project in Guinea continue to be reported within Energy & Minerals.
2. To allow production numbers to be compared on a like-for-like basis, we have excluded production from asset divestments completed in 2019 from our share of prior year production data. The financial data above includes the results of divested assets up to the date of sale. In February 2020, our interest in Energy Resources of Australia (ERA) increased from 68.4% to 86.3% as a result of new ERA shares issued to Rio Tinto under the Entitlement Offer and Underwriting Agreement to raise funds for the rehabilitation of the Ranger Project Area. Production is reported including this change from 1 March 2020.
3. Capital expenditure is the net cash outflow on purchases less sales of property, plant and equipment, capitalised evaluation costs and purchases less sales of other intangible assets.
4. Return on capital employed (ROCE) is defined as underlying earnings excluding net interest divided by average capital employed (operating assets).

Safety

Our E&M operations recorded progress across key safety metrics this year. The all-injury frequency rate decreased to 0.41 (down from 0.43 in 2019), the result of continued safety coaching and emphasis on leadership on the ground.

We were pleased to record, in 2020, another year with zero fatalities. However, in October 2020, one of our Richards Bay Minerals employees, in South Africa, sustained a permanent disabling injury. The employee's rehabilitation is progressing well and we will continue to support him and his family. As we always do in such instances, we have shared the analysis and lessons learned across the Group to help prevent such incidents in the future.

Our ongoing commitment to reduce significant process safety incidents resulted in five process safety incidents in 2020, down from eight in 2019.

Our QMM operations in Madagascar delivered one of the best safety performances across the Group, with no recordable injuries and an all-injury frequency rate of 0.00. Three other E&M sites, Jadar, Simandou and Suzhou, also ended the year with no recordable injuries.

In 2021, we will continue to implement the safety maturity model across our sites with a focus on leadership coaching and impactful leadership interactions. Our programmes to eliminate fatalities and decrease risks related to major hazards remain at the core of our 2021 strategy.

COVID-19 response

With operations across Australia, Asia, Europe, Africa and North America we saw a significant spread of COVID-19 related impacts over the course of the year.

We have put in place a range of COVID-19 specific measures across the business to align with directives from governments and health authorities in our jurisdictions. As a result, we have secured the confidence of our local governments allowing us to continue to operate as essential businesses. We mobilised significant resources across our business to keep our employees safe and provide critical support to our communities – ranging from food and water security to PPE and equipment provisioning for health facilities.

In Canada, we made alternative housing available for victims of domestic violence and we donated hand sanitiser produced at site. We donated funds to offer food assistance and distanced learning support to families in the communities near our Boron operations in California, US. In Guinea and South Africa, we partnered with local sewing businesses to manufacture cloth masks. In Madagascar, we transformed one of our building into a fully equipped medical treatment centre to assist local health authorities.

Financial performance

The business was flexible and resilient from an operational perspective, while fully complying with significant government-imposed COVID-19 restrictions, notably in Canada, the US and South Africa. At Iron Ore Company of Canada (IOC), we took advantage of stronger market conditions in Asia in the first half of the year and switched our product mix, prioritising concentrate over pellets, and then returned to higher pellet production as European demand recovered.

Underlying EBITDA of \$1.6 billion was 7% lower than 2019 with IOC shipping 8% higher volumes and benefiting from stronger pricing, while Minerals (titanium dioxide feedstocks and borates) were impacted by COVID-19 restrictions and weaker market conditions.

We progressed our evaluation studies with funding approved for the Jadar lithium-borate feasibility study and activity starting at the mine area of the Simandou iron ore project.

We generated net cash of \$1.1 billion from our operating activities, a 24% decline on 2019, driven by the same trends as underlying EBITDA and the timing of tax payments from higher profits at IOC in 2019, with the final payments made in 2020. Free cash flow of \$0.6 billion reflected tight control of capital expenditure, down 22% on 2019.

Review of operations

Uranium

Our share of uranium production was 9% higher than 2019, primarily due to the change in our shareholding (from 68.4% to 86.3%) following completion of ERA's entitlement offer in February 2020. ERA's Ranger operation continued to process existing stockpiles uninterrupted in 2020, with production ceasing on 8 January 2021.

Iron Ore Company of Canada (IOC)

Production of pellets and concentrate at IOC was 1% lower than 2019 due to unplanned maintenance at the processing facilities in the third and fourth quarters.

Minerals

Titanium dioxide slag production of 1.1 million tonnes was 7% lower than 2019 due to COVID-19 restrictions in Quebec and South Africa, lower market demand and operational disruptions at Richards Bay Minerals (RBM). With the COVID-19 resurgence in Quebec and South Africa, we continue to operate our assets with extensive measures in place to ensure the safety of our employees and communities.

Borates production was 8% lower than 2019 due to a period of lower demand related to COVID-19 uncertainty resulting in an adjustment to refinery operating rates. The extension of a planned shutdown impacted fourth quarter production.

New projects and growth options

The \$463 million Zulti South construction project at RBM remains on full suspension. We will assess a restart after normalisation of operations.

At the 100%-owned Jadar lithium-borate project in western Serbia, we progressed to the feasibility study stage, following Board approval of almost \$200 million, with the studies expected to be complete by the end of 2021. If the investment is approved, construction would take

approximately four years. In December, we disclosed a maiden Ore Reserve and updated Mineral Resource. The Ore Reserve is 16.6 million tonnes at 1.81% Li₂O and 13.4% B₂O₃.¹ Jadar would be capable of producing approximately 55 thousand tonnes of battery-grade lithium carbonate, as well as 160 thousand tonnes of boric acid (B₂O₃ units) and 255 thousand tonnes of sodium sulphate as by-products per annum.² Due to the different reporting system used in Serbia, Jadar also submitted its "Elaborate of Resources and Reserves" to the Serbian Mining Ministry in the fourth quarter of 2020. This document was approved, and the respective Certificate was received on 6 January 2021. The adoption of "Elaborate of Resources and Reserves" allowed the project to then immediately submit the application for exploitation field licence which provides tenure for the deposit. In accordance with Serbian regulations, this permit is expected within the coming months.

At the Simandou iron ore project³ in Guinea, we expect to complete the first phase of the technical optimisation work on the infrastructure components in the first half of 2021. Activity in the mine area is starting including roadworks. We are making progress with implementation of the project's Social and Environmental Impact Assessment.

Greenhouse gas emissions

In 2020, Energy & Minerals' absolute greenhouse emissions were 3.6Mt CO₂e, a reduction of 0.1Mt CO₂e from 2018 levels. The decrease in emissions was driven by reductions in production and energy consumption mainly due to the response to COVID-19.

Iron ore pellets and concentrate production

(million tonnes – Rio Tinto share)

2016	10.7
2017	11.2
2018	9.0
2019	10.5
2020	10.4

Titanium dioxide slag production

(thousand tonnes – Rio Tinto share)

2016	1,048
2017	1,315
2018	1,116
2019	1,206
2020	1,120

1. This Ore Reserve estimate was set out in a release to the ASX dated 10 December 2020 "Rio Tinto declares maiden Ore Reserve at Jadar" (ASX release). The Competent Person responsible for the information in the ASX release that relates to Ore Reserves is Mr Allan Earl who is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM). Mr Earl's assessment is supported from a metallurgical perspective by Mr Gary Davis who is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM). Rio Tinto confirms that it is not aware of any new information or data that materially affects the information included in the ASX release, that all material assumptions and technical parameters underpinning the estimates in the ASX release continue to apply and have not materially changed, and that the form and context in which the Competent Persons' findings are presented have not been materially modified.
2. These production targets were previously reported in the ASX release on 10 December 2020. All material assumptions underpinning the production targets continue to apply and have not materially changed.
3. Operating under the Simfer joint venture where the government of Guinea holds 15% and Simfer Jersey holds 85%. Simfer Jersey is owned by Chalco Iron Ore Holdings (CIOH) (47%) and Rio Tinto (53%). CIOH is owned by Chinalco (75%), Baosteel Resources (20%), China Civil Engineering Construction Corporation (CCECC) (2.5%) and China Harbour Engineering Company (CHEC) (2.5%). This structure has been in place since 2017.

Innovation

The innovation we brought to market this year included everything from creating products from waste to site teams manufacturing hand sanitiser and building COVID-19-resistant, hands-free door openers. While some of these initiatives were small, they are nevertheless a clear demonstration of the ingenuity and pioneering spirit for which our company is known.



An employee operating a drone in the loadout area at our Iron Ore Company of Canada Operations in Labrador City, Canada.

Working safer and smarter

Technology played an essential role in helping us keep our operations running, smoothly and safely, during the COVID-19 pandemic. For example, we partnered with a data analytics specialist and used artificial intelligence (AI) to help us anticipate emerging COVID-19 risks across geographies so we could adjust resources and controls – such as office access – in higher-risk regions.

Our iron ore business in the Pilbara, Western Australia, introduced antibody testing to supplement screening tests at domestic airports for our fly-in, fly-out workforce, enabling our business to continue operating while minimising the risk of COVID-19 transmission.

We increased our use of drones and mine pit cameras and introduced video headsets, so we could continue to conduct visual inspections of tailings facilities and equipment while complying with travel restrictions and physical distancing requirements. At the Oyu Tolgoi underground project, we used Vuzix smart glasses – based on augmented reality – letting technical experts from all over the world work with local teams.

We also continued to innovate as part of our broader health and safety programme: for example, our Weipa bauxite team in Queensland, Australia, designed a custom-made mechanical arm to open and close tailings valves, reducing the risk of injuries.

Product innovation

This year we launched three new products by either extracting valuable metals from waste – or by creating a new product from the waste itself. All three reduced the amount of waste sent to landfills, created useful products and helped customers meet their sustainability goals.

At our Boron operations in California, US, we engineered a way to extract lithium – a critical mineral used in clean technologies – from waste rock. In December, we commissioned a demonstration plant capable of producing 10 metric tonnes per year of battery grade lithium-carbonate, allowing us to assess the technical, economic and commercial feasibility of progressing to a production scale plant.

In our Aluminium business, approximately 85% of the 400,000 tonnes of waste (excluding bauxite residue) created by our Saguenay – Lac-Saint-Jean operations is used to make new products. In 2020, we partnered with leading sustainable construction materials company Lafarge Canada to launch Alextra, a new product made from treated spent pot lining used to produce cement. Lafarge Canada will make around one million tonnes a year of cement using Alextra.

And we continue to improve our anhydrite fertiliser product, made from aluminium process waste, via funding research by Université Laval and Université du Québec à Chicoutimi, with the governments of Canada and Quebec, providing data that helps farmers optimise anhydrite application. We also partnered with Quebec's Resolute Forest Products to explore the use of anhydrite with by-products from their paper mills – which, when combined, could become an even more efficient 'super fertiliser'.

Also in 2020, we continued to digitise our commercial activities to enhance our customer experience including:

- Completing the first end-to-end blockchain transaction in Renminbi with the China Baowu Steel Group;
- Launching the 'Rio Portside' WeChat app enabling customers to buy iron ore on their phones – a first for the industry;
- Introducing a 'Track-and-Trace' tool, enabling Aluminium customers to track their cargo in real time.

Smart partnerships

In 2020 our ELYSIS partnership completed the construction of the Research & Development Centre to scale up breakthrough technology that eliminates all direct greenhouse gases from the aluminium smelting process.

Our partnership to develop Australia's first nationally recognised vocational qualification in automation with South Metropolitan TAFE and the Western Australian government was globally recognised, winning a Gold Award in the "Partnership with Industry" category at the World Federation of Colleges and Polytechnics 2020 Awards of Excellence.

In 2020, we also formed new partnerships – and extended existing ones – to explore ways to reduce emissions across the steel value chain. This included:

- **Committing \$10 million** to advance our climate partnership, announced in 2019, with China Baowu Steel Group and Tsinghua University. This will fund the joint establishment of a Low Carbon Raw Materials Preparation Research and Development Centre
- **Committing \$4.5 million** to support research projects at the Tsinghua-Rio Tinto Joint Research Centre for Resources, Energy and Sustainable Development over the next five years
- **Signing a Memorandum of Understanding** with Nippon Steel Corporation to jointly explore, develop and demonstrate technologies to transition to a low-carbon emission steel value chain.

This year marked our third year as the industry partner of the Foundation for Australia-Japan Studies, a not-for-profit organisation that encourages collaboration between academic institutions, government and industry in Australia and Japan. Since 2018, we have funded ten research projects ranging from low-carbon desalination technology to robotics.

And through our Pioneer Portal, which crowd-sources innovation from outside the company, we received more than 370 submissions from entrepreneurs, start-ups and businesses, helping us source new ideas to address business challenges. These range from designing robots to minimising risks associated with cleaning large storage tanks to finding ways to reuse rail sleepers.

Driving efficiency

We continued to use machine learning and predictive analytics to increase productivity at our operations as well as support our exploration efforts globally.

At Gudai-Darri (Koodaideri) we are shaping new ways of working – some never seen in our business or industry. Set to be one of the world's most automated mines, Gudai-Darri's autonomous fleet will include the world's first autonomous water carts, to be launched in 2021. Delivered through a partnership with equipment manufacturer Caterpillar, the water carts will join our autonomous heavy mobile equipment fleet including haul trucks and autonomous drills.

We also piloted two autonomous electric drills at the Iron Ore Company of Canada (IOC). Among the first of their kind, the trial showed the system delivered increased safety and productivity benefits compared with standard rigs. By allowing a single operator to monitor multiple drills from IOC's Integrated Operations Centre in Labrador City, drilling can continue safely in conditions unfit for teams on the ground, such as blizzards, freezing temperatures and electrical storms.

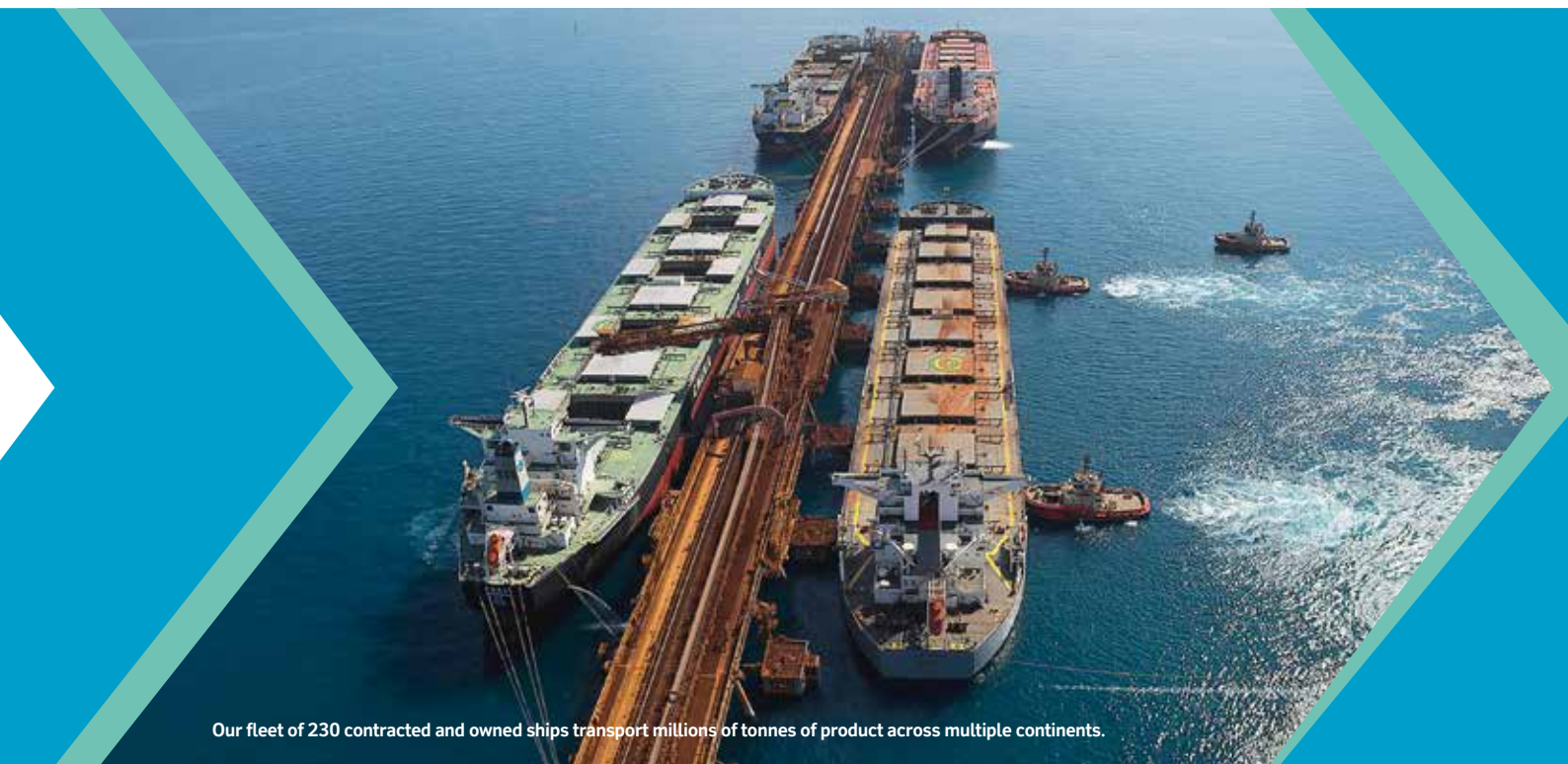
2020 marked one year since we established our Operations Centre in Brisbane, which now provides an end-to-end view of our Weipa and Gove bauxite mines. Among other benefits, the Centre has helped us better plan bauxite grades for our local refineries, optimise shipping schedules from the mines and deliver savings through lower processing costs.

Predicta, our data science and advanced analytics service, combines specialist engineering knowledge with data science tools and processes to help prevent critical asset failure. Predicta enables consistent equipment performance, minimises down time and reduces maintenance costs. For example, at our Pilbara iron ore operations in Western Australia, Predicta helped our ore crushers reduce lost production time by 94%. We have deployed Predicta at 19 operating sites, and we plan to expand it to more in the future.

At our Pilbara iron ore operations, we implemented a predictive model to inform ore blending strategies and help minimise blockages and unscheduled downtime at our processing plants. A pilot deployed at our Hope Downs 1 mine in 2019 confirmed the model helped reduce downtime in the plant by 40%. We have rolled out models at a further five Pilbara mines, and we continue to improve the accuracy of those deployed.

Commercial

Our Commercial group encompasses our global sales and marketing, procurement, and marine and logistics operations. By harnessing the skills, knowledge and insights we acquire from everything we buy, sell and move around the world, we focus on deepening customer and market insights, improving connections and accelerating decisions between our markets and assets and partnering with customers and suppliers to generate additional value.



Our fleet of 230 contracted and owned ships transport millions of tonnes of product across multiple continents.

In 2020, while trade flows were disrupted due to COVID-19 restrictions, we continued to fulfil our customer and supplier orders and ensured our operations had the materials they needed to continue operating safely.

This year, we continued to expand our commercial activities into new areas to meet customer needs and maximise the value of our physical flows. In Iron Ore, for example, we grew our portside sales presence in China to nine ports, adding more than 80 new customers to our business. In Aluminium, we established bonded warehouses for alumina in Qingdao, Lianyungang, and Bayuquan in China to enable just-in-time deliveries, greater flexibility through inventory management, and access to new customers. In addition, by providing strong 'virtual' technical and customer support, we were able to successfully deliver bauxite to a new customer facing COVID-19-related supply disruptions.

We also used the challenges presented by COVID-19 – such as the inability to exchange physical documentation – as a catalyst for us to expand digital interfaces with customers and suppliers. For example, we completed the industry's first end-to-end blockchain transaction in Renminbi, with the China Baowu Steel Group. We will continue to pilot and adopt new digital tools to improve our customers' and suppliers' experience.

This year, we also progressed a range of partnerships and programmes aligned with our product stewardship strategy and our customers' growing demand for responsibly produced materials. Key achievements included:

- Our Kennecott and Oyu Tolgoi operations were the first in the world to be awarded the Copper Mark – the industry's independent assurance programme – verifying our copper is responsibly produced.

- We announced a partnership with AB InBev, the world's largest brewer, to produce beverage cans made from low-carbon aluminium that meets industry-leading sustainability standards.
- We are working with Shawinigan Aluminium Inc to provide our aluminium customers in Canada and the US with high-quality alloys made with recycled content from 2021.
- We began trialling the production of small quantities of high-performance aluminium-scandium master alloys, using scandium oxide recovered from waste created from the titanium dioxide production process.

Safety

In 2020, we continued to prioritise the safety, health and wellbeing of our employees, contractors and stakeholders, with an increased focus on mental wellbeing.

COVID-19 added an additional layer to the diverse range of risks we face across our global sales and marketing, procurement and marine and logistics activities. For example, to manage the risks to seafarers from restrictions on crew changeovers, we continue to work with the industry, our shipowner partners and regulators to facilitate crew changes and protect crew welfare.

In addition, our primary focus has been on maintaining critical risk management fatality prevention programmes across areas of greatest exposure – primarily marine and logistics, and procurement – while implementing mental and physical wellbeing initiatives to help employees balance work and personal priorities. In 2020, we had zero fatalities and a 0.11 all-injury frequency rate. In 2021, we intend to continue to make mental health and wellbeing a central part of our employee initiatives.

Market insight and outlook

The global economy suffered the largest recession in decades with COVID-19 restrictions impacting markets, resulting in global GDP falling by 3.9% in 2020. As we begin 2021, there is evidence of a new investment cycle amid accommodative monetary policy and extensive deployment of fiscal policy around the world. However, ongoing efforts to contain COVID-19 remain a headwind, and geopolitical tensions present risks to the outlook.

China was the only major economy to record positive GDP growth this year, logging growth of 2.3%. The growth was commodity intensive, following the government's rapid response and stimulus that accelerated infrastructure projects and encouraged construction. While continued positive momentum is expected in 2021, China's recovery is transitioning to a more broad-based upswing in consumption and private sector investment. In the longer term, the trend of income growth in emerging markets, including those in ASEAN countries and India, will continue to drive global commodity demand. In China, strong commodity demand will be increasingly driven by the government's urban agglomeration and decarbonisation targets, as well as a drive for self-sufficiency, which will continue to grow the manufacturing sector.

Iron ore

The COVID-19 pandemic had a disparate impact on iron ore demand in 2020: solid growth in China's imports more than offset the contractions in other regions. Scrap collection and availability were significantly disrupted by the pandemic, further supporting iron ore demand at a time when weather events constrained supply from the major producing regions. As a result, the monthly average Platts index for 62% iron fines converted to an FOB basis rose 19% in 2020. With the exception of products sold at ports in China, all of our Pilbara products are priced with reference to the 62% index.

Global steel production contracted by 1.2% year-on-year in 2020, as China lifted its steel production output to a record 1.05 billion tonnes, which compensated for the 9% contraction in the rest of the world. Pandemic-related capacity and production cuts in Europe, Japan and the US brought steel output down by 12-17% compared with 2019. India, the world's second largest steel producer, recorded a 11% year-on-year contraction in 2020. Combined crude steel production in the world, ex-China, recovered to 2019 levels for the first time in October 2020 and grew year-on-year during Q4 2020.

Weather events in Brazil and Australia during the first half of 2020 curtailed seaborne iron ore supply, but the cumulative shipments of the major producers increased by 2% (~25Mt) over the year. Meanwhile, China's domestic iron ore supply expanded by ~20Mt year-on-year to ~290Mt and helped meet record demand in 2020, as elevated iron ore prices incentivised some previously idled small-scale mines to restart operations during the second half of the year. Reflecting the demand disparity between domestic and export markets, China's net finished steel exports also contracted by 36% year-on-year to 33Mt in 2020.

Due to robust demand and global supply constraints, the market for iron ore concentrate and pellets was strong throughout the year. This is expected to continue into 2021 as more steel producers requiring high-grade, low impurity pellets increase production and global supply constraints persist.

Aluminium

Aluminium primary demand declined by ~3.0% in 2020, following a fall of ~1.0% in 2019. COVID-19 severely impacted consumption this year, but with notable regional differences in recovery rates: gradual in the developed world with China experiencing a strong V-shaped recovery. Demand in the transport sector has been especially weak in 2020, but it has been robust in the packaging sector. We expect overall demand to rebound in 2021, but ongoing COVID-19 restrictions and political risks remain.

The alumina market remained in moderate surplus, and low prices have resulted in a high level of idled capacity in inland China.

China continues to drive demand in the global seaborne bauxite market as result of stricter environmental measures and the depletion of domestic bauxite. Chinese bauxite imports rose by ~11% to 112Mt in 2020 on the back of increased imports from Guinea, Australia and Indonesia.

Copper & Diamonds

Copper prices fell to a low of 209c/lb in March 2020 as COVID-19 severely impacted demand. The price rebound was led by recovering Chinese demand and supply tightness due to reduced scrap availability and mined supply disruptions. Chinese inventories subsequently reached their lowest level in over eight years and LME stocks fell to their lowest in 15 years. Prices reached a seven-year high of 361c/lb in December 2020, more than 70% higher than the low earlier in the year, as net-long investor positions (on COMEX and LME) reached the equivalent of 2Mt. However, the rate of recovery in growth is slowing in many economies and the rise of renewed lockdowns threatens the recovery.

Policy direction in the medium term indicates a strong copper-intensive outlook with the continued rise of electric vehicles, potential green stimulus packages around the world and China's push for carbon neutrality by 2060.

In diamonds, a heavy decline in spending on jewellery impacted underlying demand, while lockdowns in India's manufacturing centres restricted the volume of rough diamonds purchased from miners.

Energy & Minerals

Underlying demand for titanium dioxide pigment fell sharply in the second quarter of 2020 leading to a deterioration of feedstock demand by the middle of the year. Leading indicators suggest a recovery in 2021. Structural factors remain favourable for high-grade TiO2 feedstock and zircon supply.

Medium- to long-term demand for borates is tied to increases in wealth and living standards but is prone to short-term shocks, as witnessed in 2020. A decline in demand impacted all regions globally and coincided with a reduction of supply volumes. A moderate recovery is expected in 2021.

Sustainability

Sustainability came into sharp focus in 2020 in a variety of ways.

When COVID-19 became a global pandemic, we undertook special measures to protect the safety and wellbeing of employees, contractors and communities, and were able to keep people safe and healthy while keeping our operations running. This was also important to our shareholders: as restrictions on movement were implemented, host communities and governments relied on the wages, taxes and royalties we paid in 2020 (over \$12 billion across more than 27 countries). Despite the radical changes required, especially at our operations, we are proud to have delivered a second straight year with zero fatalities.

However, 2020 was overshadowed by the destruction of two rock shelters in the Juukan Gorge. It should not have happened, and it represented a breach of our values. The steps we have taken – to ensure that the destruction of a site of such exceptional cultural significance never happens again – are summarised on pages 10-11. We are determined to learn the lessons from Juukan Gorge, rebuild trust in our company and to catalyse broader changes as we seek to re-establish our leadership in communities and social performance.

We know we must work hard to regain the trust of our stakeholders, and today, more than ever, we acknowledge our responsibility to continue to work in a way that delivers real, lasting benefits to our host communities and countries. We know we must care for our employees, respect and safeguard the environment when we explore, build and operate and repurpose or rehabilitate the land when our operations come to an end. We must also contribute to local and national economies by paying competitive wages, treating our suppliers fairly, investing in our local communities and paying our share of taxes.



Our sustainability framework is predicated on earning the trust of our employees, partners and society

Running a safe, responsible and profitable business

This is the foundation of our approach.

Collaborating to enable long-term benefits where we operate

We collaborate with others to build respectful relationships and enable long-term benefits where we operate – working with governments at all levels and community partners to help make a difference in people's lives.

Producing materials essential for human progress while contributing to some of the greatest challenges facing society

We aim to contribute to a more sustainable future – through reducing our own global carbon footprint, addressing the UN Sustainable Development Goals, forming smart, technology – and value-chain – focused partnerships and producing materials essential to a low-carbon economy.

Our approach to the United Nations' Sustainable Development Goals

Each of our three pillars contributes to the United Nations' 17 Sustainable Development Goals



This year, we re-examined our approach to the UN Sustainable Development Goals (SDGs) – in conjunction with our purpose, business and sustainability strategies and risks – to better understand how we can work alongside governments, civil society and others to pursue meaningful impact on development. We decided to focus on the two goals – SDG 12 (responsible consumption and production) and SDG 8 (decent work and economic growth) – that we feel are most relevant to operating our business responsibly.

SDG 12 relates to how we – as a custodian of natural and mineral resources – mine, process and produce materials and contribute to ethical global supply chains, including trusted lifecycle assessments. This SDG builds on our existing health, safety, environment and community performance standards and our membership of responsible production and product stewardship programmes, including the Aluminium Stewardship Initiative, Copper Mark, the International Council on Mining and Metals' Performance Expectations, the Responsible Jewellery Council and the Mining Association of Canada's Towards Sustainable Mining.

SDG 8 speaks directly to our values and priorities, including our commitments to creating a safe and inclusive working environment, as well as promoting education and training partnerships that support social and economic development, including by helping to develop skills for the future. We are committed to supporting underrepresented groups; in particular, we seek to ensure Traditional Owners and Indigenous peoples have a stronger voice in the decisions that affect their lands.

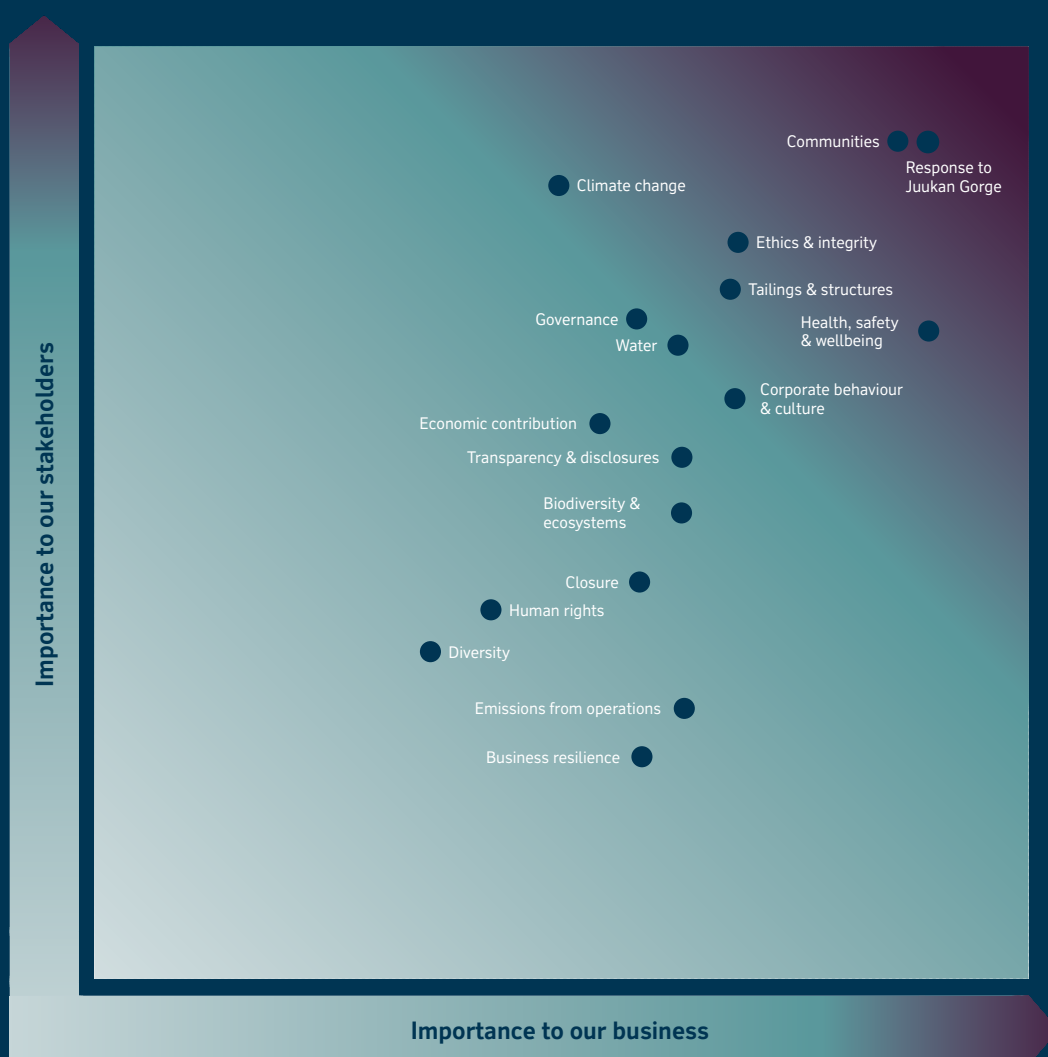
In our business, efforts to further these two 'lead' goals are naturally supplemented by efforts to further several other 'supporting' goals. These are also strongly aligned with our sustainable development and business drivers – climate action, water, gender diversity, health and wellbeing, reduced inequalities, innovation and quality education, and environment.

SDG 17 (partnerships for goals) reflects our approach to sustainability and is fundamental to the way we run our business. We work purposefully with technology partners, local suppliers, governments, community groups, industry leaders and NGOs at all stages of the mining lifecycle to deliver real benefits to all our stakeholders.

Reporting What Matters

This year, we incorporated the majority of our sustainability reporting into our Annual Report and have added content tools, such as a full ‘Sustainability Fact Book’, which has current and historical data on topics including health, safety, environment, climate, communities, human rights, responsible sourcing and transparency. We are supplementing these disclosures with additional information on our website.

As a member of the International Council on Mining and Metals (ICMM), we commit to reporting on our sustainability performance against Global Reporting Initiative (GRI) standards (Core option). Based on extensive internal and external stakeholder feedback on our sustainability performance, especially with regard to communities, we adjusted our sustainability materiality assessment. We conducted a comprehensive assessment in 2019 through structured meetings, surveys and interviews with a broad range of stakeholders around the world. These included investors, customers, communities, civil society organisations, governments and Rio Tinto experts and leaders.



* According to GRI's guidance, relevant topics that potentially merit inclusion in sustainability reporting are "those that can reasonably be considered important for reflecting the organization's economic, environmental, and social impacts, or influencing the decisions of stakeholders." Impact "refers to the effect an organization has on the economy, the environment, and/or society (positive or negative)." View a full glossary of terms at [riotinto.com](https://www.riotinto.com).

2020 performance against targets

Targets	Performance
To reach zero fatalities, and to eliminate workplace injuries and catastrophic events	Zero fatalities at managed operations All-injury frequency rate (AIFR) at 0.37 (target: 0.37), reduced by almost 12% from 2019 (0.42) 1.31 million critical risk management verifications
All businesses will identify at least one critical health hazard material to their business and will demonstrate a year-on-year reduction of exposure to that hazard.	Despite a focus on responding to COVID-19, the 12 assets identified by the business demonstrated an 18% reduction in overall exposure to their identified critical health risks. Overall, this has reduced the level of exposure for 723 employees and contractors.
To reduce the rate of new occupational illnesses each year	27% decrease in the rate of new occupational illnesses since 2019
To reduce our absolute Scope 1 and 2 emissions by 15% and our emissions intensity by 30% by 2030 (relative to our 2018 equity baseline) ¹	2020 Scope 1 and 2 emissions were 31.5Mt CO ₂ e – a reduction of 1.1Mt CO ₂ e (3%) relative to our 2018 baseline. Our emissions intensity has remained approximately level since 2018.
To disclose for all managed operations by 2023, their permitted surface water allocation volumes, annual allocation usage and the estimated surface water allocation catchment runoff from average annual rainfall To achieve local water stewardship targets for selected sites by 2023	Despite the significant challenges faced at the assets and Group level last year, the water stewardship targets have progressed well, and with consistent attention we will deliver these as planned by 2023. For further details on our water performance see pages 81-84.
To demonstrate local economic benefits from employment and procurement of goods and services by reporting yearly against a locally defined target To capture and manage community complaints effectively and reduce repeat and significant complaints each year	100% (21 out of 21 asset groupings [#]) have met or are 'on track' ^(a) to achieve their 2021 significant complaints target* 95% (20 out of 21 asset groupings [#]) have met or are 'on track' ^(a) to achieve their 2021 repeat complaints target* 71% (15 out of 21 asset groupings [#]) have met or are 'on track' ^(b) to achieve their 2021 local employment target* 81% (17 out of 21 asset groupings [#]) have met or are 'on track' ^(b) to achieve their 2021 local procurement target*
To improve diversity in our business by: – Increasing women in senior leadership by 2% each year – Aiming for 50% women in our graduate intake, with 30% from places where we are developing new businesses	23% of our Executive Committee were women, down 2% from 2019 26.1% of senior leadership ² were women, up 3.5% from 2019 19% of our workforce were women, up 0.6% from 2019 60% of our graduate intake were women, up 6.1% from 2019 33.3% of Board roles were held by women, up 22.2% from 2019 26% of our graduate intake was from places where we are developing new businesses ³ , up 7% from 2019
Improving our employee engagement and satisfaction	One-point increase in our employee net promoter score (eNPS ⁴) from 2019 One-point increase in employee satisfaction score (eSAT ⁵) from 2019 One-point increase in our recommend score from 2019

1. In 2020, the Rio Tinto Board approved new climate targets to replace the 24% reduction in total greenhouse gas emissions intensity between 2008-20 (managed basis). In 2020, we achieved a 27.4% decrease in greenhouse gas emissions intensity since 2008 (managed basis).

2. We define senior leadership as general managers, Group advisers and chief advisers as well as employees in leadership roles who report directly to Executive Committee members.

3. Identifying with a nationality is not mandatory. More than 48% of our graduates have not formally reported a nationality.

4. eNPS is a measure of "how likely an employee is to recommend Rio Tinto to a friend or colleague". It is calculated by subtracting the proportion rating 0-6 from the proportion rating 9 and 10 (on a 0-10 scale).

5. eSat is a measure of "how happy an employee is to work at Rio Tinto". It is calculated by averaging the responses on the 1-7 scale and expressing this out of 100.

Refer to the Sustainability Fact Book on [riotinto.com](https://www.riotinto.com) for details on the asset groupings.

* Due to COVID-19-related disruptions, the global target requirements have been extended to 2021 and further input has been requested on this extension. The 2020 actual performance will be considered as an interim report with the final year of the target period concluding in 2021.

(a) 'On track' means within one complaint of 2021 target and not on track is greater than one complaint off the 2021 target. A complaint is a communication indicating a community member has suffered some form of offence or detrimental impact from our business. It is significant if the actual consequence is major or catastrophic or the potential consequence is high. It is a repeat complaint if someone else complains about the same underlying issue, or the same person complains again.

(b) 'On track' means 80% or greater progress towards 2021 targets.

Sustainability

continued

Health, safety and wellbeing

Safety is our first value. It is how we start every shift and every meeting. We believe that all injuries can be prevented. We continue to make the safety of our colleagues and communities our first priority.

In 2020, for the second year running, we achieved zero fatalities. Over the past ten years, both the severity of injuries and our all-injury frequency rate (AIFR) have fallen significantly, from 0.69 in 2010 to 0.37 in 2020. Compared to 2019, our AIFR has improved by almost 12%.

While we are pleased by this performance, there is no question we can and must do better. This year, two employees suffered permanent disabling injuries: an employee lost his hand at Richards Bay Minerals, our titanium dioxide operation in South Africa, and a contractor was permanently injured at the Diavik Diamond Mine in Canada. We are supporting both colleagues and their families, and are committed to learn from and prevent these tragic incidents from recurring.

Our aluminium business is progressing its five-year plan to reduce health risk exposures by improving monitoring and implementing engineering controls, such as ventilation. We expanded the use of technology to support our fatigue management programmes and eliminate fatigue-related incidents. We also expanded our global health team to ensure we have the right support for occupational health and industrial hygiene matters.

We have also embarked on a systematic programme of minimising – with the goal of ultimately eliminating – diesel particulates from our underground mines. We are doing so by measuring diesel exhaust emissions and installing and upgrading diesel particulate filters on our existing diesel equipment fleets. We are in the process of investigating the transition to either battery electric or higher-tiered, cleaner engines where mobile battery electric equipment is not yet available.

Wellbeing has also been a key focus throughout 2020, particularly with the onset of the global COVID-19 pandemic. Lives were upended, with families separated due to border closures and extensive quarantines, parents needed to balance working from home with raising their children, and all of us were required to adjust. In response, we introduced more flexible work schedules, virtual care packs and ensured greater access to health and medical resources.

We have worked hard over many years on mental health and our strong foundation enabled us to respond quickly to the crisis. Importantly, our People Survey results showed employees felt supported during this challenging time.

Safety and health performance¹ 2016-20

	2020	2019	2018	2017	2016
Fatalities at managed operations	0	0	3	1	1
All-injury frequency rate (per 200,000 hours worked)	0.37	0.42	0.44	0.42	0.44
Number of lost time injuries	189	228 ²	226 ²	199	206
Lost time injury frequency rate (per 200,000 hours worked)	0.22	0.27	0.27	0.25	0.26
Safety maturity model (SMM) score	5.4	4.5	-	-	-
New cases of occupational illness (per 10,000 employees)	15.7	21.5 ²	29.6	24.6	47.3
Number of employees ³	47,500	46,000	47,500	47,000	51,000

1. Data relating to fatalities, all-injury frequency rate and lost time injury frequency rate includes all employee and contractor exposure hours and incidents at managed operations. New cases of occupational illness are reported for employees only.

2. Numbers adjusted from previous years to ensure comparability over time.

3. Includes our share of joint ventures and associates (rounded) and excludes contractors.

Contributing causes for newly reported illness cases (2020)

	2020
Noise-induced hearing loss	21(32%)
Musculoskeletal disorders	30(46%)
Mental stress	1(2%)
Others	13(20%)

COVID-19

In 2020, COVID-19 emerged as a global pandemic. We quickly assessed the challenges for our company, communities, contractors and employees and instituted controls to keep people safe and healthy from the virus and allow our operations to run safely and smoothly.

The protocols we put in place include those in line with government guidance, directives and best practice advice from leading medical experts and international health organisations. Our measures included: travel restrictions, social distancing, increased personal hygiene, and greater support for employees in areas such as mental health, managing fatigue and adjusting to working from home as well.

Every mine, operation and office adopted a set of screening measures, such as health questionnaires and temperature screening. In addition, for most locations, we were able to implement virus screening. This work has been closely co-ordinated with local governments. For example, our Pilbara iron ore business introduced antibody screening to supplement our rapid screening measures at domestic airports in Western Australia for our fly-in, fly-out (FIFO) workforce.

We also partnered with a data analytics specialist and used artificial intelligence (AI) to help us anticipate emerging local COVID-19 geographic risks so we could adjust resources and controls in those regions. For example, this tool helped us identify the best time to

strengthen or relax control measures, such as when employees could safely return to offices in different jurisdictions.

We continue to ensure affected employees have the medical support they need when they, or their families, are affected by the virus. We know it is a challenging time for many people and we are closely tracking the wellbeing and fatigue of our employees and offering support as needed. In addition to our employee assistance programme (EAP), for employees and their families, this support includes the following:

- Adapting our leave and pay benefits, such as offering our vulnerable employees special leave
- Providing flexible work arrangements
- Developing 'virtual care packs' with key information on resources available
- Providing telemedicine resources in several locations

An example of operating safely during COVID-19: Iron Ore, Pilbara, Western Australia

Our Iron Ore business in Western Australia employs 13,600 people. The majority of our operations are based in the Pilbara region, more than 1,000 kilometres from Perth, and include a significant fly-in, fly-out (FIFO) workforce.

Minimising the risk of COVID-19 transmission among our FIFO employees and contractors was essential to continue operating safely, and in compliance with government directives.

From March to August, we implemented longer rosters (two-week-on, two-week-off) for thousands of people to reduce the risk of spreading the virus by reducing the frequency of travel in and out of the Pilbara. To service these changes, we secured additional charter flights, ensuring compliance with physical distancing guidelines by spacing people appropriately on planes and in airports. To comply with travel restrictions, we also relocated more than 700 employees with specialist skills to Perth so they could continue in their roles.

We introduced a five-layer screening process – conducted by trained medical staff – at the Perth, Busselton, Geraldton and Albany airports for FIFO employees and contractors returning to work. This included:

- A health questionnaire prior to travelling to screen for potential exposure to COVID-19, consistent with government restrictions on intra-state travel
- A face-to-face assessment with a nurse on arrival at the airport
- Temperature checks via an electronic thermometer
- Antibody testing, via a small blood sample, to check for virus-related antibodies. If antibodies were detected, the employee was tested for COVID-19 via a nasopharyngeal swab (Perth airport) or referred to an approved COVID-19 testing clinic (regional airports). They were also required to self-isolate as a precaution
- An access band allowing employees who were cleared by the screening process to board their flight

We also changed the way we worked on the ground. For example, we implemented stronger controls on access to our sites and used technology – such as drones and mine pit cameras – to conduct monitoring activities, reducing the need to visit site. Our health and safety teams put a range of safeguards in place: rooms were measured and marked out to indicate maximum capacity, crosses marked on floors to indicate physical distancing guidelines, and we increased the frequency of cleaning high-touch areas.

We also supported medically vulnerable employees, ensuring appropriate medical assessments were undertaken. We also made necessary work arrangements to protect their health.

To support our FIFO teams – many of whom were spending more time away from their families – we provided an on-call service so they could return home for health or family emergencies.

In addition, we offered a hotline providing employees with health assessments by medical advisers on fitness for work, including fatigue management. We also provided mental health support through our employee assistance programme.

Sustainability

continued

Health and wellbeing

Domestic violence programme

We want our employees to feel safe at work and at home. We are proud of our industry-leading programme to help support victims of domestic violence. In 2020, we extended this programme to more than 98% of our employees globally, with plans to extend it across the entire Group. Through the programme, we provide special leave, emergency accommodation, financial support, and training to equip leaders and employees to step in and help – safely and effectively. We also provided additional support to community partners during the pandemic. As part of an effort to make our communities across Canada safer, we donated C\$360,000 to 12 women's shelters and local organisations providing a variety of support for women and families impacted by domestic violence.

Mental health and wellbeing

Mental health continues to emerge as a pressing issue, not only for Rio Tinto but for the world at large – a situation exacerbated by COVID-19. For more than 20 years, we have provided peer support programmes, with specially trained employees playing a pivotal role in supporting their colleagues at local level. Over the past five years, we have extended mental health training for leaders and employees, including to raise awareness about psychosocial hazards so that they can recognise a problem before it develops – and help.

In 2020, largely but not exclusively in response to the pandemic, we further strengthened our focus on mental health. We introduced a mental health framework that consolidates various policies, procedures and programmes, making it easier for colleagues to provide support and easier for employees to access it. We offer different kinds of support, including our employee assistance programme (EAP), which includes counselling by professional psychologists, telemedicine in some regions, peer support programmes and online educational tools.

Occupational health

In 2020, we recorded fewer occupational health illnesses, and conducted more than 65,000 health control verifications, a 12.6% increase over 2019. And, starting in early April, we conducted 193,000 COVID-19 control verifications to assess the efficacy of our health controls, such as physical distancing and hygiene controls. COVID-19 protocols designed to protect health workers placed restrictions on the ability to conduct employee medical exams. We are looking at ways to address this, though in much of the world, at the time of this writing, restrictions are back in place.

Strengthening safety systems

Eliminating fatalities requires a strong safety culture coupled with systems designed to mitigate risk and continually improve the safety of our work. Our safety maturity model (SMM), introduced in 2019, provides a roadmap for leaders to advance the foundations of safety without being overly prescriptive. These foundations include leadership and engagement, learning and improvement, risk management and work planning and execution. Annually, we assess assets' progress against each of these elements.

In 2020, our assessment of SMM gave us valuable insights into the effectiveness of safety leadership, key processes and controls. The average score across our operational sites improved, with the most significant improvement around site leadership and coaching.

We continue to focus on strengthening our safety culture, in part by training our employees on best practices. In 2020, for example, we embedded master coaches in each product group to build safety leadership capabilities. This included conducting effective pre-start meetings and providing engaging feedback in the field. By creating a virtual programme, we ensured this coaching could continue despite COVID-19 restrictions.

Critical Risk Management (CRM) – a tool our operations use to verify that fatality prevention controls are in place before starting each task – continues to be fundamental to our business. Since introducing CRM in 2015, our safety, fatality and potentially fatal incident (PFI) performance has markedly improved. We also expanded CRM to include COVID-19 critical controls, ranging from physical distancing measures to travel arrangements. We also completed more than 1.3 million CRM verifications, not including the 193,000 associated with COVID-19 critical controls. To help us gauge the quality of verification checks, we track the number of comments or evidence submitted with non-compliant verifications. Analysis indicates more than 84% of the non-compliant verifications completed by leaders had comments and supporting evidence. We are now looking at ways to improve the quality of verifications completed by frontline teams most exposed to critical risks.

Finally, we continue to report, investigate and learn from PFIs.

In 2020, we introduced the PFI rapid sharing and learning system, which ensures lessons from PFIs are shared directly with all leaders – approximately 3,500. Detailed learnings are also shared when each PFI investigation is complete. In addition, the executive leader for each business unit conducts a 'deep dive' on the incident to ensure the underlying causes are well understood and the right follow-up measures are identified and tracked – to completion – to prevent a future occurrence.

Safety standards

We do everything we can to prevent catastrophic events, including those involving tailings and water storage facilities, chemicals, underground mining and process safety. We identify major hazard risks (low-probability, high-consequence events) and manage them by verifying controls, conducting external reviews and requiring compliance with standards and procedures – such as our tailings and water storage facilities' management standard (for more information, please see the Tailings section).

Our standards (available on our website) and procedures provide a consistent approach to managing major hazards across our managed operations. We audit managed operations against our standards and require our businesses to meet their health and safety performance requirements and targets. In addition, we conducted major hazard reviews with each product group.

We advanced our work around process safety with the introduction of 'technology guardians'. These are senior technical professionals, based either onsite or near our operations, responsible for assuring we have strong risk-based controls to manage process changes and maintain asset and process control integrity. We have completed competency assessments for our technical support and are implementing detailed training and coaching to address any gaps identified.

In 2020, we completed a comprehensive risk review for underground hazards; in 2021 we will review and update our underground safety standard and associated guidelines. This work is also guiding us as we advance underground technology and improve the technical capability of our operational leaders.

Also in 2020, we advanced our functional safety standard across the Group, governing the safety controls for technology we use to minimise risks such as obstacle detection and collision avoidance systems in autonomous trucks. The standard includes product assurance by suppliers, periodic testing and ongoing maintenance of these systems.

Tailings

We use our standard for the management of tailings and water storage facilities at 108 tailings storage facilities (TSFs) at our assets globally. There are a further 50 TSFs at non-managed sites. In total, there are 65 active TSFs, 40 are inactive and 53 are closed. Our full tailings disclosure is available on our website.

Our facilities are regulated, permitted and have been managed for many years to comply with local laws, regulations, permits, licences and other requirements. We have classified tailings management as a risk in the Group risk register since 2010 and have had a Group safety standard in place for tailings and water storage facilities since 2015. Our assurance processes verify that our managed facilities around the world operate in accordance with this standard.

All of our operational TSFs have emergency response plans – tested through training exercises – and follow strict business resilience and communications protocols. There have been no external wall failures at our TSFs for more than 20 years.

This year, we updated our Group safety standard for all tailings and larger water storage facilities. In addition, we reviewed our relevant standards against the requirements of the new global industry standard on tailings management (GISTM), released in August 2020, including how we classify consequences and how and when we implement independent reviews. Our relevant standards are well aligned with the GISTM.

The GISTM is the result of the Global Tailings Review, a collaboration between the International Council on Mining and Metals (ICMM), of which we are members, the United Nations Environment Programme and the Principles for Responsible Investment. The Review established an international standard for tailings management aimed at preventing catastrophic failure and enhancing the safety of mine tailings facilities around the world. We believe the GISTM will ensure more consistency and rigour in the way the mining industry manages tailings.

We continued to play an active role in the ICMM tailings working group this year, which focused on the development of the GISTM conformance protocol as well as a tailings guidance document designed to help support industry-wide adoption. We have participated in the tailings working group since 2016, helping inform the ICMM position statement – including the six elements of TSF governance, which are reflected in our own standard.

In 2020, we completed the technical risk review programme at each of our managed and non-managed TSFs. The review programme, which began in 2019, found that while our TSFs are generally well managed and there are no immediate dam safety threats, we have opportunities to improve. Accordingly, we have implemented improvement plans for water storage facilities and TSFs and are working towards completing outstanding actions. While global COVID-19 pandemic restrictions delayed a few items, we plan to complete all outstanding actions as quickly as possible, while adhering to restrictions in each jurisdiction.

This year we also:

- Ensured all operations with TSFs and 'high-consequence' water dams have appointed a Nominated Manager and Qualified Site Representative. Nominated Managers are accountable for their site's conformance to our management of the tailings and water storage facilities standard; Qualified Site Representatives are accountable for the day-to-day operations and monitoring of tailings facilities
- Established a new role – the Responsible Dam Engineer – to provide technical support to the Nominated Manager to manage tailings and water storage facility risks
- Actively engaged with industry forums such as the Canadian Dam Association and the Minerals Council of Australia tailings working groups
- Committed A\$2 million over five years to the Future Tails partnership, a collaboration between Rio Tinto, BHP and the University of Western Australia, which includes training programmes to build talent and capability; publications that summarise state-of-the-art tailings analysis, design, operation and management; and research collaborations with industry to drive further innovation

Sustainability continued

Communities

To us, communities aren't just places. They are the people on whom our operations can have an impact, and with whom we strive to build long-term partnerships: Indigenous peoples, landowners, suppliers, neighbours and our colleagues.

This year, at Juukan Gorge, we did not fulfil our own values; we did not measure up to our own standards. The destruction of the rock shelters should not have happened, and we are absolutely committed to listening, learning and changing. For more about Juukan Gorge, please refer to pages 10-11.

Strengthening communities and social performance

To help transform our relationship with host communities around the world, including Traditional Owners in Australia, we have taken a number of actions:

We established a Communities and Social Performance (CSP) Area of Expertise (AoE), which will deliver a more rigorous assurance framework across our operations and elevate communities risk processes to align with our robust health and safety systems. The CSP AoE reports to our Group Executive, Safety, Technical and Projects, who is a member of our Executive Committee. While we already conduct social risk analyses at our sites – informed by day-to-day engagement with, and feedback from, communities as well as social and economic impact assessments – the CSP AoE will further strengthen this process.

We also changed the way we structure our CSP teams globally so that product group and operational leaders have direct responsibility for managing relationships with their host communities, including Indigenous peoples.

We are currently rolling out the first phase of a new integrated heritage management process (IHMP), at our Pilbara iron ore operations and will subsequently implement the lessons across our business globally, taking into account local circumstances.

In the Pilbara, the IHMP involves a systematic review of all the heritage sites that we manage, starting with those that may be impacted by our activities over the next two years. So far, we have reviewed over 1,000 sites and ranked each one by: (i) cultural significance (which is informed through consultation with the Traditional Owners of the land on which we operate); (ii) our re-confirmation that we have recently consulted with Traditional Owners for potential impacts; and (iii) the materiality of the impact. Where there is any doubt, we have reclassified the relevant sites from 'cleared' for mining back to 'protected' as a precautionary measure, pending further consultation with the Traditional Owners.

We also progressed our partnerships with First Nations in Canada. In British Columbia, we signed a Relationship Agreement, called the 'New Day Agreement' with the Cheslatta Carrier Nation. The Agreement formalises commitments relating to training (including collaboration on the Cheslatta Nation remote industry training centre), land, employment and business opportunities and environmental stewardship of the Nechako Reservoir. In Quebec, the Iron Ore Company of Canada signed a Reconciliation and Collaboration Agreement with the Uashat mak Mani-utenam and Matimekush-Lac John communities. We are also progressing a further four agreements with other First Nations communities in Quebec, Saskatchewan and British Columbia.

We conduct Social Impact Assessments (SIAs) – aligned with international standards, including the ICMM Mining Principles, International Finance Corporation Performance Standards and UN Guiding Principles on Business and Human Rights – to help guide new projects as well as

inform closure planning. This year, following the events at Juukan Gorge, we reviewed our social risk analyses across our managed assets to ensure we had a thorough understanding of our potential impacts at each, and that suitable mitigation measures were in place.

At our Jadar project in Serbia, we are currently undertaking an SIA as part of the feasibility study to complement the Environmental Impact Assessment and ensure that impacts are appropriately identified and managed. We anticipate this study will be completed by the end of 2021, and will be informed by detailed community consultation and participatory methods for identifying impacts and mitigation.

In 2021, we will also review our CSP standard – which governs how we identify and manage social, economic, environmental, cultural and human rights impacts from exploration to closure – and ensure that all operational leaders understand our commitments.

An update on Resolution Copper, Arizona, US

At our Resolution Copper project in Arizona, in the US, we recognise the historical connection Native American Tribes have with the land involved at or near the proposed mine. We acknowledge these connections have endured over centuries.

One lesson reinforced by the events at Juukan Gorge is that meaningful, transparent engagement with all community members across the entire lifecycle of an asset is critical to shared success. Resolution Copper continues to be committed to ongoing engagement with Native American Tribes and is working to seek consent before any decision on development of the project, consistent with the International Council on Mining and Metals (ICMM) Statement on Indigenous Peoples and Mining.

The permitting process at Resolution Copper started in 2013, under the Obama Administration. Since that time, the US Forest Service (USFS) has led a rigorous review of the project, including public consultations and extensive engagement with a broad range of stakeholders. This dialogue has led to changes in the project design and the implementation of other measures to address concerns of the local community and Native American Tribes.

Supporting our communities

➤ Donating A\$1.25 million over five years to the Royal Flying Doctor Service in Australia (Queensland section) to improve emergency and remotely delivered health care services across the state

➤ Donating 25,000 masks and other equipment worth approximately C\$100,000 to the local health authority and social services in Saguenay – Lac-Saint-Jean, in Quebec, Canada

We also reduced the area identified for an exchange of public and private lands – necessary for the project to proceed – to protect areas of cultural significance, and are required to set aside more than 324 hectares to permanently protect the culturally significant Apache Leap area. We created the Emory Oak Restoration & Conservation Program, which recognises this species' importance to the Western Apache.

We expect to invest in a range of important initiatives during the mine's life, including cultural heritage, education, youth programme support, economic development, environmental mitigation, and recreation.

On 15 January 2021, after more than seven years of public and 11 years of tribal consultation, the USFS published its Final Environmental Impact Statement (FEIS) for Resolution Copper. Decisions on whether to invest fully in developing the project remain subject to further permitting processes and a feasibility study conducted over the next several years.

An update on the Panguna mine, Bougainville, Papua New Guinea (PNG)

The civil war in Bougainville led to the complete withdrawal of Bougainville Copper Limited (BCL), a subsidiary of Rio Tinto, in 1990, from the Panguna mine site it operated. Since that time, no Rio Tinto personnel have visited the site. In June 2016, we transferred our full interest in BCL for no consideration to the PNG government and the Autonomous Bougainville Government (ABG), providing them with equal shares in BCL.

In September 2020, the Human Rights Law Centre (HRLC) filed a complaint on behalf of 156 Bougainville residents with the Australian National Contact Point (AusNCP) against Rio Tinto regarding the Panguna site. The complaint alleges we are accountable for significant breaches of the OECD Guidelines for Multinational Enterprises (the OECD Guidelines) relating to past and ongoing environmental and human rights impacts arising from the Panguna mine.

In response, we have entered into discussions with the HRLC and representatives of the communities that have filed the complaint using the confidential conciliation processes of the AusNCP to support dialogue towards a sustainable solution. These discussions are ongoing including how to scope and safely conduct an independent environmental and human rights impact assessment as well as how to involve other relevant stakeholders.

An update on CBG, Guinea

The Compagnie des Bauxites de Guinée SA (CBG) is a bauxite operation in Guinea owned by Halco Mining Inc (51%) and the Guinean government (49%). Halco is a consortium comprised of Rio Tinto (45%), Alcoa (45%) and Dadco Investments (10%). We participate on the boards of Halco and CBG, with representation on various shareholder oversight committees.

Through our Board and committee roles, we have been proactively monitoring CBG's approach to community issues and its response to the complaint filed through the International Finance Corporation's grievance mechanism. We have increased our support to CBG by providing additional expert help in the form of a Guinea-based Africa specialist and a senior manager with extensive experience on resettlement and human rights, and are encouraging CBG to work towards a constructive outcome aligned with international standards. More detail on this can be found on our website www.riotinto.com.

Supporting communities through the pandemic

During the COVID-19 global pandemic, we took active measures to reduce the risk of transmission from our employees and contractors to local communities. For example, at our Weipa bauxite operations in far north Queensland, Australia, we worked closely with the local disaster management group, including the town authority and medical department, to develop and implement specific plans in response to the federal government declaring biosecurity health zones. At the Diavik Diamond Mine in the Northwest Territories, Canada, where many of our employees come from vulnerable, remote communities, we introduced a range of measures to minimise the risk of transmission, including mandatory testing, calls with medical professionals prior to travel, enhanced hygiene and physical distancing measures, roster and flight changes, and the mandatory use of masks.

We have strict protocols in place guiding the way we engage with communities. This includes building two community-related verification steps into our critical risk management system, requiring our teams to assess potential COVID-19 risks to the community and develop a plan to manage them. If, for whatever reason, physical interaction with any community may pose risks, we have asked our employees and partners to turn to non-physical ways to interact, or to cancel or postpone the engagement. Our employees and contractors cannot visit vulnerable communities – those in which underlying health challenges are prevalent, or those in remote areas where health care infrastructure is not strong – without the approval of appropriate community and Rio Tinto leadership.

During the pandemic, we engaged with our Australian suppliers – many of whom are small businesses – and offered support, financial or otherwise, to those experiencing hardship.

We also committed \$25 million to help communities during the pandemic. For example, to help support small businesses in financial stress in the Saguenay – Lac-Saint-Jean region of Quebec, Canada, we partnered with five municipal governments, the First Nation of Mashteuiatsh and financial services group Desjardins to create a regional stimulus fund, which provided financial support for health and safety, productivity and efficiency measures to make businesses more sustainable. The fund, which complemented existing local government initiatives, provided C\$750,000 to more than 100 businesses.

- In the Anosy region of Madagascar, upgrading a building and turning it into a dedicated treatment centre that can receive up to 108 patients, and treat 60 people – including up to 32 needing intensive care
- Providing alternative housing support to a local shelter in Labrador, Canada, for women and children needing a secure refuge
- Donating more than R6 million to provide critical support for local communities near Richards Bay Minerals, our operation in KwaZulu-Natal, South Africa, including food and water supplies, as well as PPE and essential equipment for frontline health workers and clinics

- Donating €20,000 to the Red Cross in Belgrade, Serbia, and €20,000 to the Red Cross in Loznica, Serbia, for essential food and hygiene items for the cities' most vulnerable citizens
- Working with United Food and other partners to distribute more than 100,000 cans of drinking water and donate more than 280,000 meals to the communities near the Resolution Copper project in Arizona, US

Sustainability

continued

Economic contributions (US\$ million) (2020)

	2020	2019	2018	2017	2016
Gross product sales	47,018	45,367	42,835	41,867	35,336
Net cash generated from operating activities ^(a)	15,875	14,912	11,821	13,884	8,465
Underlying earnings	12,448	10,373	8,808	8,627	5,100
Underlying earnings per share (US cents)	769.6	636.3	512.3	482.84	283.8
Profit/(loss) after tax for the year	10,400	6,972	13,925	8,851	4,776
Net cash/(debt)	(664)	(3,651)	255	(3,845)	(9,587)
Capital expenditure ^(b)	(6,189)	(5,488)	(5,430)	(4,482)	(3,012)
Employment costs	(4,770)	(4,522)	(4,728)	(4,765)	(4,881)
Payables to governments ^(c)	(8,224)	(7,175)	(7,217)	(6,637)	(4,025)
Value add ^{(d) (e)}	31,472	27,841	30,504	27,734	20,065
Payments to suppliers ^(e)	(15,547)	(17,245)	(17,231)**	(16,471)**	(15,812)**
Amounts paid by Rio Tinto	n/a^(f)	(7,635)	(6,575)	(5,138)	(3,984)
Amounts paid by Rio Tinto on behalf of its employees	n/a^(f)	(1,284)	(1,342)	(1,402)	(1,416)
Community contributions (2016-2018 data includes payments to landowners)	*	*	(192)	(176)	(168)

* Note: In 2019, we adopted new definitions and data collection processes for reporting discretionary community investments, non-discretionary development contributions, management costs and payments to landowners to align with GRI Reporting Standards. As a result of these changes, 2019 data is not comparable with previous years. For 2020, we have adopted the same definitions as for 2019. The 2020 data is comparable to 2019, but not to previous years.

** Numbers restated from those originally published to ensure comparability over time.

(a) Data includes dividends from equity accounted units, and is after payments of interest, taxes and dividends to non-controlling interests in subsidiaries.

(b) Capital expenditure is presented gross before taking into account any disposals of property, plant and equipment.

(c) Payables to governments includes corporate taxes, government royalties and employer payroll taxes.

(d) Value add is the sum of labour, payables to governments and returns on capital invested in operations.

(e) These figures include the Group's share of joint ventures and associates.

(f) Our Taxes Paid report will be published later this year on riotinto.com.

	2020	2019
Community investment (discretionary) ^(a)	(47)	(36.4)
Development contributions (non-discretionary) ^(b)	(12.8)	(12)*
Payment to landowners (non-discretionary) ^(c)	(165.9)	(147)**

* Note: In 2019, \$13 million was reported for development contributions. This has been revised down to \$12 million due to an error noted in reporting.

** Numbers restated from those originally published.

(a) Community investments are voluntary financial commitments, including in-kind donations of assets and employee time, made by Rio Tinto to third parties to address identified community needs or social risks.

(b) Development contributions are defined as non-discretionary financial commitments, including in-kind donations of assets and employee time, made by Rio Tinto to a third party to deliver social, economic and/or environmental benefits for a community, which Rio Tinto is mandated to make under a legally binding agreement, by a regulatory authority or otherwise by law.

(c) Payment to landowners are non-discretionary compensation payments made by Rio Tinto to third parties under land access, mine development, native title, impact benefit and other legally binding compensation agreements.

Economic and social development

In 2020, our direct economic contribution was \$47 billion, including the total value of operating costs, employee wages and benefits, payments to providers of capital, payments to government, development contributions, payments to landowners and community investments. Also in 2020, our total discretionary global community investments were \$47 million, covering primarily health, education, environmental protection, housing, agricultural and business development sectors.

The economic and social development of communities continues to be a priority: we strive to employ local people, buy local products and engage local services, and we have targets reflecting this at each of our operations.

In Mongolia, for example, between 2010 and the fourth quarter of 2020, Oyu Tolgoi (OT), our copper and gold mine, spent \$3.54 billion on national procurement[#]. OT maintains a dedicated national procurement policy focused on promoting and developing a safe and sustainable local supply chain, which includes the 'Made in Mongolia' strategy. Since 2017, OT has signed 30 contracts with Mongolia-based businesses for goods and services including personal protective items such as FFP2 masks and winter safety gloves, hygiene products such as hand sanitiser and wipes, and specialised professional services.

[#] Oyu Tolgoi's (OT) national procurement figure represents spend with suppliers registered in Mongolia and more than 50% owned by Mongolian citizens. It relates to the OT operations only, and does not include the underground project.

OT is also partnering with German international development agency GIZ and the Umnugovi Aimag to run a capacity building programme for businesses on topics such as health and safety, business integrity and management, financial literacy and lean manufacturing. Since 2018, OT has hosted 266 training sessions with more than 3,500 participants from more than 450 small and medium size businesses – 58% of whom were women. Following the training, 72% of the trainees recorded that their businesses expanded, including ten Umnugovi businesses that have become OT suppliers and/or subcontractors.

Work of the future

This year, we progressed partnerships that help develop students' skills for the future. For example, in Australia, as part of our four-year A\$10 million investment in the education technology sector, we supported the Future Minds Accelerator programme in partnership with leading start-up accelerator BlueChilli and Amazon Web Services. The Future Minds programme engaged 100,000 Australian children, focusing on skills such as critical thinking, problem solving and automation. In addition, the programme provided training and professional development opportunities for 2,700 teachers and engaged more than 1,000 schools, helping drive interest in digital skills among students. The programme also helped the participating start-ups grow their businesses, creating 32 new jobs.

In Western Australia, 28 high school students participated in the Certificate II in Autonomous Workplace Operations programme, the first nationally recognised automation qualification in Australia, which we launched in partnership with South Metropolitan TAFE (a technical and further education institution). The course, which launched in 2019, is designed to provide participants with the knowledge and skills needed to succeed in the resources industry of the future.

People

2020 has been a challenging year for all of our stakeholders, including our employees, as COVID-19 significantly altered our ways of working. Still, our employees told us they were proud to work for a business considered essential during a global pandemic.

The destruction of the rock shelters at Juukan Gorge shocked and deeply disappointed many of our employees. We recognise we must do better – and that doing better must begin with creating an environment in which everyone feels comfortable speaking up.

In August-September 2020, we conducted virtual employee focus groups across our business, in which almost 1,000 employees participated – 72% were site-based and 28% were from our corporate offices. These focus groups, which included employees from a variety of backgrounds and perspectives – diverse by gender, ethnicity, location, age and length of service, and with a particular focus on underrepresented groups – revealed that employees view Rio Tinto as an industry leader and appreciate the genuine care they feel from their colleagues. However, employee pride has been eroded, particularly in Australia, due to our destruction of the Juukan Gorge rock shelters. And while our employees appreciate our response to COVID-19, life for many is becoming more difficult as the pandemic wears on.

Our employees also said we need a stronger message on sustainability, which is a focus of our new Chief Executive. This includes what sustainability means to us as a business; on matters of inclusion and diversity, they told us we need to take more meaningful action. Partly as a result, we are expanding our diversity targets to include our entire workforce – targeting a 2% increase in female representation – and investing \$50 million to increase Indigenous leadership across our business in Australia.

Some of these themes were also mirrored in our annual People Survey employee engagement results, which included more than 64,000 written comments from more than 26,000 employees (a 57% response rate). We were pleased to see a one point increase in our employee net promoter score (eNPS) over the past year. Our employee satisfaction score also increased by one point. This is the sixth consecutive increase, so while we must do better, we also know there are many strengths of which we can be proud and on which we should continue to build.

Our employees continue to share in the success of our business: one way is through myShare, our all-employee global share purchase plan. The number of employees that buy Rio Tinto shares through myShare is today at its highest level, having increased 13% this year; more than 22,000 employees actively contribute every month, with 13,000 contributing the maximum permitted. We have participants in 30+ countries, with 94% in Australia, Canada, the US, Mongolia and South Africa. On average, employees purchase shares worth \$14 million each year, and participants hold more than \$600 million of shares within their myShare plans (comprising shares bought with their own contributions plus matching shares and shares bought through dividends).

We continued to invest in skills development throughout 2020. We launched LinkedIn Learning – an online learning tool, providing access to more than 16,000 courses on a wide range of topics and skills. To date, more than 11,000 employees have accessed training on the platform, consuming more than 22,000 hours of content. We are also investing in our critical capabilities: this year, 29 people were formally recognised as technical RioExperts, bringing the total number to 77. Of these, 23% are women. Our flagship commercial fundamentals programme continued to be deployed virtually. Leadership development also transitioned to virtual, prioritising the development of our leaders to become effective coaches and encourage teams to contribute their full potential. Our average learning hours per employee increased from 25.6 in 2019 to 27.7 in 2020.

Pay equity

We seek to provide competitive pay, delivered through fair and non-discriminatory pay practices and processes. We are committed to ensuring that employees with similar skills, knowledge, qualifications, experience and performance are paid equally for the same or comparable work. In 2020, we continued to evolve our remuneration to eradicate bias and otherwise enhance the transparency and robustness of our decision making.

Our pay equity statistics (ie 'equal pay gap' and 'gender pay gap') are integral to our monitoring of employee pay; they guide pay decisions and investment during our annual remuneration review. The statistics are affected by gender representation across our organisation (we employ more men than women). We remain focused on improving female representation at all levels.

Our equal pay gap measures the extent to which women and men employed by our company in the same location and performing work of equal value receive the same pay. In 2020, the equal pay gap decreased marginally, compared to 2019, and remains less than 2%. The equal pay gap is the primary lens we use when assessing progress against our ambition to eradicate bias.

Gender pay is a measure of the difference between average earnings of women and men across the Group (excluding incentive pay), regardless of role, expressed as a percentage of men's earnings. In 2020, our gender pay gap was just over 1% in favour of women (in 2019, it was less than 1% in favour of men). While part of this positive shift is attributable to decisions made to reduce the gap, which is reflected in the slightly higher increase in average earnings for women this year, it is also a reflection of employee movements (attrition, recruitment and promotion) and the fact that more women are in higher-paying roles in our operational workforce.

A key area of focus in 2021 will be equity statistics as we look to extract added insight. We want to expand the suite of statistics we use and find indicators that provide insights, on both a lead and lag basis, to help close any remaining gaps – and prevent new ones.

Sustainability

continued

Diversity

We aspire to an environment in which the aspects and dimensions of diversity reflect the communities in which we operate.

We employ people on the basis of job requirements and do not discriminate on any grounds. We do not employ forced, bonded or child labour. We employ people with disabilities and make considerable efforts to offer suitable alternative employment and retraining to employees who become disabled and can no longer perform their regular duties.

Our graduate programme continues to help us bring new perspectives into the organisation. This year, we increased our proportion of female graduates – by 6% – to 60%. In Australia, 8% of our graduate intake and 9% of our vacation student programme were Indigenous. We continued to offer scholarships, hire vacation students and graduates throughout the pandemic, leveraging virtual campus recruitment and development.

The overall percentage of female employees increased marginally – by 0.6% – to 19%. Our focus on women in leadership increased the proportion of women in senior management roles – by 3.5% – to 26.1%. We continue to focus on the representation of women across all levels and in all disciplines. For example, at our Pilbara iron ore operations, in Western Australia, this year we launched our 'Pathways to Mining' recruitment campaign, which aimed to recruit 100 women – including those without mining experience – for site-based operational roles and traineeships. The response to the campaign exceeded our expectations, attracting over 2,500 applications, which are currently being assessed for roles ranging from trade assistant to plant, laboratory, and drill and blast operator.

As noted earlier in this report, in 2021, we will expand our gender diversity targets beyond women in leadership to women at all levels. The dual challenge of increasing diversity and evolving our work environment to welcome diverse voices and perspectives will require significant and sustained effort across the organisation. To that end, we have also committed \$50 million over five years to advance Indigenous leadership in our business across Australia. And, as part of our ongoing commitment to our signatory Traditional Owner groups, we will continue to work on broader employment pathways, including entry level opportunities, career readiness programmes, school-to-work pathways, apprenticeships and other local employment programmes and activities. Our goal is to achieve a target of 8% Indigenous participation across our business in Australia.

The overall percentage of female employees increased by 0.6% to

19%

(7,713 women; 32,962 men)

Women in professional roles increased by 0.7% to

26.5%

(3,489 women; 9,659 men)

Executive Committee – 2021

23%

(3 women; 10 men)

33.3% of Board roles held by women (4 women; 8 men) increased from 11.1% in 2019

26.1% of senior leadership roles held by women (132 women; 373 men).

We define senior leadership as general managers, Group advisers and chief advisers as well as employees in leadership roles who report directly to Executive Committee members

\$50 million to attract, retain and support the development of Indigenous employees across Australia

We are:

- Changing our hiring practices by focusing on an Indigenous candidate's potential, not their mining experience.
- Introducing a cultural onboarding programme to ensure leaders have the skills they need to support Indigenous employees.
- Pairing Indigenous employees with senior leaders and providing career coaching for employees while also developing leaders' cultural competence.
- Supporting employees' growth and development by identifying skill gaps and working with each employee to create a career plan, including further education.
- Growing cultural competency through cultural awareness training, and where possible, cultural immersion opportunities on Country or through working directly with Indigenous businesses and organisations.

A note on 2021 reporting

For 2021 reporting, the definition used to calculate diversity will be changed to include people not available for work due to extended leave for reasons such as parental leave and contractors (those engaged on temporary contracts to provide services under the direction of Rio Tinto leaders). This will mean our 2021 targets will be re-set to a slightly higher baseline.

Employee hiring and turnover rates^{(a)(b)(c)} (2020)

	Gender ^(d)		Age group				Region				
	Female	Male	Under 30	30-39	40-49	Over 50	Africa	Americas	Asia	Australia/ New Zealand	Europe
Employee hiring rate ^(e)	29.5%	70.5%	40.7%	30.7%	18%	10.6%	1.8%	33.3%	5.8%	54.9%	4.2%
Employee turnover rate ^(f)	7.2%	6.9%	8.5%	5.8%	5%	9.7%	5%	6.1%	3.9%	8.3%	8.9%

(a) Includes our total workforce based on managed operations (excludes the Group's share of non-managed operations and joint ventures) as of 31 December 2020.

(b) Excludes non-executive directors and contractors.

(c) Rates have been calculated over average monthly headcount in the year per category.

(d) Less than 1% of the workforce gender is undeclared.

(e) Hiring rate includes total employee hires per category over total hires for the year.

(f) Turnover rate excludes temporary workers and the reduction of employees due to business divestment. Turnover rate includes total terminations per category over average monthly headcount in the year per category.

Employees by employment type^{(a)(b)(c)} (2020)

	Women	Men
Senior leaders	132	373
Managers	882	2,123
Supervisory and professional	3,489	9,659
Operations and general support	3,058	20,677
Graduates	152	130
Total	7,713	32,962

(a) Includes our total workforce based on managed operations (excludes the Group's share of non-managed operations and joint ventures) as of 31 December 2020.

(b) Excludes non-executive directors, Executive Committee, contractors and people not available for work. From 2021, the definition used to calculate diversity will be changed to include people not available for work and contractors (those engaged on temporary contracts to provide services under the direction of Rio Tinto leaders).

(c) Less than 1% of the workforce gender is undeclared.

Workforce data by region^{(a)(b)}

Region	Average Employee Headcount ^(c)	Headcount Distribution %	Absenteeism ^(d)	Average Contractor Headcount ^(e)	Headcount Distribution %
Africa	2,429	6.0%	2.8%	78	1.7%
Americas	14,128	34.8%	1.1%	483	10.4%
Asia	4,070	10.0%	1.7%	405	8.8%
Australia/New Zealand	19,002	46.8%	3.1%	3,618	78.4%
Europe	955	2.4%	0.1%	34	0.7%
Total	40,583	100.0%	2.4%	4,618	100.0%

(a) Includes our total workforce based on managed operations (excludes the Group's share of non-managed operations and joint ventures) as of 31 December 2020.

(b) Rates have been calculated over average monthly headcount in the year.

(c) Employee headcount excludes our share of joint ventures and associates, non-executive directors, contractors and people not available for work.

(d) Absenteeism includes unplanned leave (sick leave, disability, parental and other unpaid leave) for populations on global, centralised HR systems. Excludes non-executive directors and contractors.

(e) Contractors include those engaged on temporary contracts to provide services under the direction of Rio Tinto leaders.

Sustainability

continued

Human rights

Respecting human rights is central to our values, and to the way we work – wherever we work. We believe respect for human rights starts with everyday actions. It is a responsibility we take seriously – from governance of our human rights-related policies, which are overseen by the Sustainability Committee of the Board of Directors, to processes like pre-screening suppliers and providing human rights training to key employees.

This year, in the wake of Juukan Gorge, many stakeholders raised concerns about the implementation of our human rights commitments. The destruction of the rock shelters was a breach of our values, standards and procedures. The steps taken to address these matters are set out on pages 114-115 [AR](#).

In 2020, we strengthened controls to ensure that we continue to prevent our involvement in adverse human rights impacts and, importantly, that we also provide remediation when we have caused or contributed to human rights harm. Provisions in this regard include assurance and auditing of sites to ensure compliance with the human rights section of our Communities and Social Performance Standard, and Group-function-specific human rights training. They also require that each of our sites has a complaints, disputes and grievance mechanism in place, in line with the UN Guiding Principles on Business and Human Rights' (UNGPs) effectiveness criteria for non-judicial grievance mechanisms.

We recognise the need to continually evolve our human rights performance and approach, and in 2021 we will focus, as part of a scheduled review of our human rights policy, on further embedding the policy and awareness of our salient human rights risks.

We also recognise the importance of addressing human rights risks in our business relationships, from our suppliers and customers to joint venture partners. We therefore look for ways to help our business partners respect human rights in line with international standards. At our non-managed operations, this may include best practice sharing around complaints handling, discussing human rights issues at joint management meetings and making our experts available to build capacity of operational employees.

We pre-screen potential business partners on human rights and require suppliers (including subcontractors) to adhere to our Supplier Code of Conduct, which necessitates respect for human rights. From 2019, our standard contractual terms have also required suppliers (including subcontractors) to take reasonable steps to prevent and address modern slavery in their supply chains, and granted us the right to audit our suppliers for compliance against these requirements. We also regularly report on modern slavery and other supply chain human rights themes.

We have identified our salient human rights issues as operational security, labour rights, environmental impacts, the rights of Indigenous peoples, including cultural heritage, land access and resettlement and in-migration. Our salient human rights issues are those on which we could have the most severe impact on people through our operations or business relationships.

Adherence to international standards

Consistent with the UN Declaration on the Rights of Indigenous Peoples, we are committed to respecting all internationally recognised human rights, including acknowledging and respecting Indigenous peoples' connections to lands and waters. We voluntarily uphold a range of other international standards and guidelines, including the Voluntary Principles on Security and Human Rights (VPSHR), the OECD Guidelines for Multinational Enterprises and the UN Global Compact. Our human rights performance is also assessed through various external initiatives, including the Aluminium Stewardship Initiative, Copper Mark and the

ICMM. We reiterate our commitment to respect internationally recognised human rights aligned with the Universal Declaration on Human Rights and to implement core international standards, including the UNGPs.

Key actions and achievements during 2020

- Progressing a remedy process with the PKK people
- Engaging with human rights-related complaints in different fora, including the Australian National Contact Point for the OECD Guidelines on Multinational Enterprises regarding the Panguna mine in Bougainville
- Providing support to our partner, the Compagnie des Bauxites de Guinée SA, in its participation in discussions with the International Finance Corporation's Office of the Compliance Advisor and community complainants regarding the Sangaredi mine in Guinea
- IOC signed a Reconciliation and Collaboration Agreement with the Uashat mak Mani-utenam and Matimekush-Lac John communities and is currently negotiating an agreement with the Naskapi Nation of Kawawachikamach
- Engaging openly with investors, civil society and community members in relation to a range of human rights issues to get feedback and improve our approach, including by convening roundtables in Australia and the UK with civil society organisations
- Publishing our third annual report on implementation of the VPSHR and our fourth modern slavery statement
- Commencing and progressing a labour rights supply chains risk assessment with a third-party provider to help us better target our labour rights risk management work in our supply chain, including in relation to modern slavery
- Raising awareness of modern slavery and other human rights issues among our global procurement team
- Progressing a new internal assurance process on human rights and on Communities and Social Performance with a focus on cultural heritage, grievance mechanisms and third-party due diligence
- Conducting VPSHR risk assessments, human rights training for security personnel and capacity building with business partners. This included delivering in-person training at our QIT Madagascar Minerals operation in March 2020, and sharing our VPSHR programme with a joint venture partner in South America
- Ranking third overall, and second within our sector, in the 2020 Corporate Human Rights Benchmark (CHRB). We note that the CHRB has appended a statement to our 2019 and 2020 results on recent events concerning Juukan Gorge

Climate change

In a world dealing with the COVID-19 pandemic, societal expectations on climate action remain high. Addressing them will, today more than ever, require businesses, governments and society to work together.

We divested the last of our coal businesses in 2018 and no longer extract fossil fuels. Our ambition is to reach net zero emissions across our operations by 2050. This year, with a strong focus on execution, we have also articulated a more explicit link between executive remuneration and our climate change targets: to reduce our absolute emissions by 15% by 2030 and emissions intensity by 30% (relative to our 2018 equity baseline). These targets were informed by a comprehensive analysis of abatement opportunities across the Group and supported by our commitment to spend approximately \$1 billion on emissions reduction initiatives over a five-year period, starting in 2020.

In 2020, we started the transition to renewable energy in the Pilbara, in Western Australia, with the approval of the \$98 million, 34MW solar plant at Gudai-Darri and 45MW battery system at Tom Price. Today, 75% of electricity used at our managed operations is from renewable sources. Of the \$1 billion we committed to climate-related projects over five years, in 2020, we approved spend of more than \$140 million.

Since 2018, we have reduced Scope 1 and 2 emissions by 1.1Mt CO₂e, or 3%, which is on track with our 2030 target for absolute emissions. However, in 2020, our emissions remained at the same level as in 2019 at 31.5Mt CO₂e. We expect progress on emissions to accelerate later in our 2030 target period as we develop and implement our mitigation projects, studies and research and development.

Our approach

Our climate change strategy is aligned with the goals of the Paris Agreement; climate change considerations are integrated with our strategic and operational decision making and our approach is supported by strong governance and continual strengthening of processes and capabilities. Our third climate change report is available on our website and details progress against the four pillars of our approach:

1. Produce materials essential for a low-carbon future
2. Reduce the carbon footprint of our operations
3. Partner to reduce the carbon footprint across our value chains
4. Enhance our resilience to physical climate risks

Climate risks and opportunities have been part of our strategic thinking, including on capital allocation, for more than two decades. We test our portfolio against a range of integrated strategic scenarios, each capturing alternative climate change narratives. Our most recent analysis, conducted in 2020, indicates the diversity of our portfolio strengthens our resilience, including in a scenario aligned with the goals of the Paris Agreement.

Most of our assets already sit at the low end of their respective commodity carbon intensity curves and our 2030 targets are aligned with a 45% reduction in absolute emissions from 2010 levels, which is consistent with 1.5°C pathways described by the Intergovernmental Panel on Climate Change.

Over the past year, we have further developed our asset-by-asset decarbonisation roadmaps and started work on mitigation projects, with a particular focus on renewables, process heat and ways to replace diesel fuel in our mobile fleets and rail networks. These roadmaps and actions are owned by our product groups and fully integrated into our annual business

planning process, with support and co-ordination from our Energy and Climate Change Centre of Excellence. In 2020, we progressed partnerships essential to executing our abatement projects and we continued to develop technology solutions to meet our mid- to long-term ambitions.

Partnerships and Scope 3 goals and targets

In late 2020, China, Japan and South Korea joined the European Union to set carbon neutrality ambitions within a 2050-60 timeframe. Together, these countries account for more than 70% of our sales and around 90% of our value chain emissions (Scope 3) from our key products, including iron ore and aluminium. We have updated our approach to calculating Scope 3 emissions which are estimated to be 519 Mt CO₂e in 2020.

We continue to explore collective solutions to reduce emissions across our value chain. This year, we defined a series of measurable Scope 3 emissions reduction goals to guide our partnership approach.

With about 80% of our Scope 3 emissions coming from customers' hard-to-abate processes, our Scope 3 goals are focused mostly on our contribution to the development and deployment of low-carbon technologies. These include targets related to emissions from shipping our products. Our Scope 3 goals are to:

- Work with customers on steel decarbonisation pathways and invest in technologies that could deliver reductions in steelmaking carbon intensity of at least 30% from 2030.
- Work in partnership to develop breakthrough technologies with the potential to deliver carbon neutral steelmaking pathways by 2050.
- Continue to scale up the ELYSIS™ breakthrough technology enabling the production of zero-carbon aluminium.
- Meet our ambition to reach net zero emissions from shipping our products by 2050.

In many important applications, there are no low-carbon alternatives to steel, aluminium and copper. Furthermore, these materials will enable the low-carbon transition. The challenge is to produce them sustainably – not only with lower emissions, but also in a way that respects communities.

Disclosures consistent with the TCFD recommendations

In 2018, we welcomed the recommendations from the Task Force on Climate-related Financial Disclosures (TCFD) in our first climate change report and have aligned our climate change disclosures to be more transparent. Climate-related disclosures on governance, strategy, risk management and metrics and targets are also integrated into this Annual Report in the following sections: strategic context, key performance indicators, risk management, principal risks and uncertainties, governance, Sustainability Committee report and remuneration.

Our climate change report provides a more thorough and consolidated review of our climate change strategy, our approach to evaluating and managing climate-related risks and progress towards our targets. Our 2020 Sustainability Fact Book includes a full list of the TCFD recommendations alongside references to our disclosure against them. We see ongoing development of good practice on climate-related disclosures in our sector and beyond, in part as a result of an iterative process of feedback from stakeholders. We anticipate, therefore, continuing to progress along the TCFD 'implementation path' and further enhancing our climate reporting in years to come.

Sustainability

continued

Greenhouse gas emissions

Scope 1&2 emissions – equity basis

Total equity greenhouse gas emissions – million tonnes carbon dioxide equivalent (Mt CO ₂ e)	2020	2019	2018 ^(a)
Total Emissions	31.5	31.5*	32.6
Scope 1 Emissions	22.8	23.1	23.8
Scope 2 Emissions	8.7	8.3	8.8

2020 equity greenhouse gas emissions by product group (Mt CO ₂ e)	Scope 1 emissions (Mt CO ₂ e)	Scope 2 emissions (Mt CO ₂ e)	Total emissions (Mt CO ₂ e)
Aluminium	15.8	6.0	21.8
Aluminium (Pacific)	4.6	5.4	10.1
Aluminium (Atlantic)	5.2	0.1	5.3
Bauxite & Alumina	6.0	0.5	6.4
Energy & Minerals	2.4	1.2	3.6
Iron Ore	3.0	0	3.0
Copper & Diamonds	1.2	1.5	2.7
Other (includes shipping and corporate functions)	0.5	0	0.5
Rio Tinto total	22.8	8.7	31.5

2020 equity greenhouse gas emissions by location (Mt CO ₂ e)	Scope 1 emissions (Mt CO ₂ e)	Scope 2 emissions (Mt CO ₂ e)	Total emissions (Mt CO ₂ e)
Australia	12.8	5.9	18.6
Canada	6.0	0	6.0
South Africa	0.3	1.2	1.6
US	1.1	0	1.1
Other: rest of Africa	0.2	0	0.2
Other: Europe	0.4	0	0.4
Other: Asia, New Zealand, Central America, South America	2.1	1.6	3.7
Rio Tinto total	22.8	8.7	31.5

Scope 1&2 emissions intensity – equity basis (tCO₂e / t Cu-eq)

	2020	2019	2018
Greenhouse gas emissions intensity	6.4	6.4	6.5

Scope 3 emissions – equity basis

	2020
Scope 3 emissions (Mt CO ₂ e)	519.4

Note: Scope 1 greenhouse gas emissions are direct greenhouse gas emissions from our operations (e.g. from fuel consumption and anodes). Scope 2 greenhouse gas emissions are from the electricity, heat or steam brought in from third parties (indirect emissions). Scope 3 emissions are indirect emissions or greenhouse gases generated as a result of activities undertaken across our value chain, either upstream or downstream of our operations.

(a) The 2018 figure is the baseline for our 2030 emissions target and has been adjusted to exclude emissions from assets divested in that year. Actual emissions in 2018 were 34.0Mt CO₂e.

Please see our Scope 1, 2 & 3 Emissions Methodology report on our website for further detail on our approach to calculating our emissions.

Scope 1&2 emissions & energy – 100% managed basis

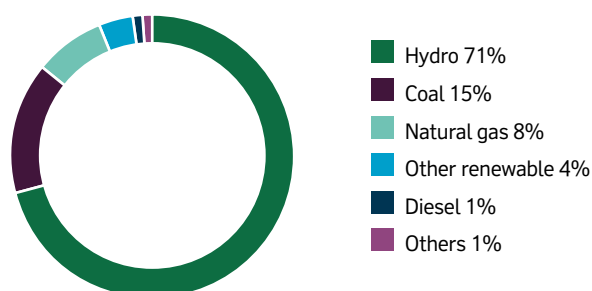
	2020	2019	2018	2017	2016	2010
Total managed greenhouse gas emissions (Mt CO ₂ e)	26.2	26.4	28.5*	30.6	32.0	43.0
Total managed energy (PJ)	402	406*	425	440	458	

Note: Total managed GHG emissions equal the sum of Scope 1 emissions and Scope 2 emissions minus the Scope 1 emissions resulting from the supply of electricity and steam to third parties.

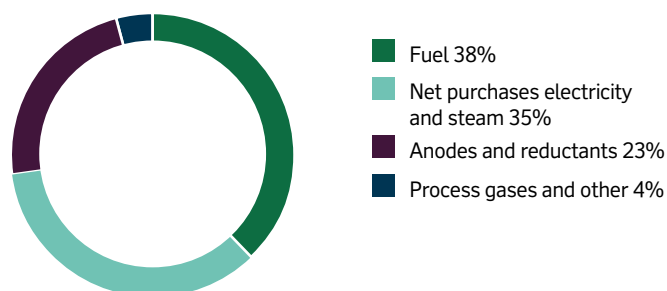
* Numbers restated from those originally published to ensure comparability over time.

In 2008, we set our first climate change target, to reduce the GHG emissions intensity of our managed operations. This was updated in 2015 and called for a 24% reduction in intensity by 2020 and we achieved that target. In 2020 our emissions intensity was 72.6 (index, 2008 = 100).

2020 sources of electricity used (managed operations)



2020 sources of emissions (managed operations)



Water

Water is a key part of our operational environmental footprint and a critical, shared resource for wildlife, the environment and people and their economic prosperity. From the Gobi Desert in Mongolia to the Arctic environment of our Diavik Diamond Mine in Canada, we use water to access and process ore, manage dust and promote rehabilitation. At some sites, most notably at our aluminium operations, we also use water to produce hydropower.

We take a catchment-level approach to water management at each site, meaning that we manage our impacts, risks and potential solutions not only within our operations but with the understanding that we share water with host and downstream communities and ecosystems. We consider the catchment landscape and local communities' needs. We also consider the impact of dewatering on nearby communities and the environment now and over the long term, including beyond the life of our operations.

We aim to avoid permanent impacts to water resources like lakes, streams and groundwater aquifers, and carefully manage the quality and quantity of the water we use and return to the environment. We also strive to balance our operational needs with those of local communities, First Nations and Traditional Owners, and local ecosystems. And we consider the impact of climate change, which is already affecting rainfall and water security at many of our sites. This requires a proactive, collaborative approach with a broad range of local stakeholders, including domestic water users and other industries.

We aim to use water as efficiently as possible in the design and operation of our sites, and our risk assessment process is fundamental to this. We consider water risk against the following four themes:

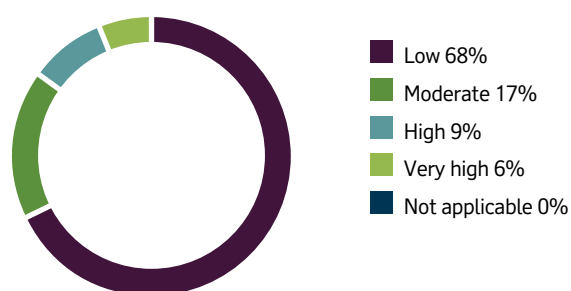
1. Water resource – is there sufficient water for operational and broader catchment needs?
2. Quantity/quality – does site water inventory or its management cause operational constraints or environmental impacts?
3. Dewatering – do dewatering or depressurisation activities impact the mine plan or regional aquifers?
4. Long-term obligations – do our activities generate long-term or ongoing obligations?

We use this framework to identify, assess, manage and communicate water risk – both internally and to the communities where we operate.

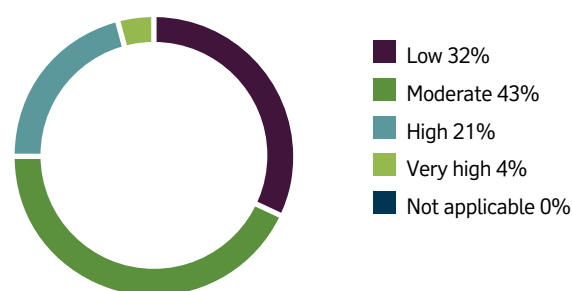
We provide our Group water risk profile below. This provides an indication of the distribution of water risk across our portfolio. While we have sites that sit in the 'very high' and 'high' categories for each of the risks – and appropriately rigorous standards, processes and capabilities to effectively manage them – the majority of our portfolio sits in the 'low' to 'moderate' range. We apply the same approach across our entire portfolio.

Group water risk profile (% of managed operations)^(a)

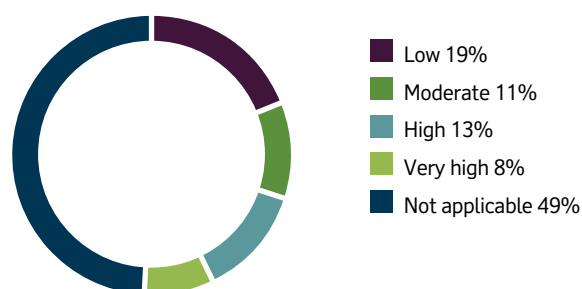
Water resources



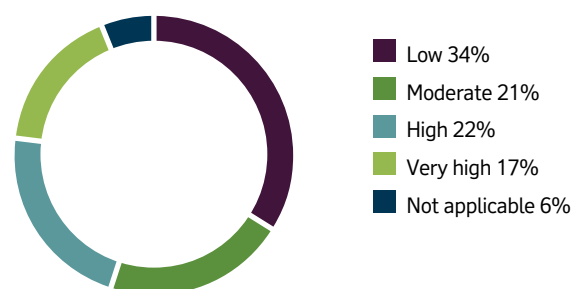
Quantity and quality



Dewatering



Long-term obligations



(a) QAL is a non-managed operation, but is part of our water stewardship target programme.

Sustainability

continued

As ICMM members, we report against the ICMM water stewardship statement:

To apply strong and transparent water governance

To manage water at operations effectively

To collaborate to achieve responsible and sustainable water use

We are among the most transparent in the industry regarding our water stewardship. There are a range of water risks, not just water scarcity, so we have set targets – tailored to the specific challenges at each site – and publicly report on progress against each one. This year, we are also providing further detail on our website through asset-level disclosures, which show key water risks at each site.

Our 2019-23 water targets

Last year, we set new water targets that allow us to be more transparent about our water usage, risk profile, management and challenges. These targets, and the data required to measure progress against them, will help us become better water stewards today and for future generations – whether in water-scarce regions or where water is plentiful. They will also help us improve our performance over the next five years.

Our water targets consist of one Group target and six site-based targets; the site targets were chosen based on their water risk profile, our ICMM commitments, and local community and environmental interdependencies.

This year, we continued to progress against our Group target and remain on track to meet it by 2023. We have collected water allocation volume data for all our assets in Australia and will complete this for our remaining operations during 2021. We will also focus on estimating surface water catchment rainfall runoff volumes for our managed operations.

Water – performance data 2016–2020 (in GL)

Withdrawals (by source)	2020	2019	2018	2017	2016
Surface water	315	326	272	348	346
Groundwater	312	296	321	304	293
Marine	71	70	48	109	79
Municipal	34	24	31	30	36
Third party	29	38	36	34	34
Entrained in ore	398	471	485	369	467
Total	1,159	1,225	1,193	1,193	1,255
Withdrawals (by quality)	2020	2019	2018	2017	2016
Type 1	457	–	–	–	–
Type 2	240	–	–	–	–
Type 3	462	–	–	–	–
Fresh	–	562	539	584	573
Other	–	664	654	609	682
Total	1,159	1,225	1,193	1,193	1,255
Discharges (by destination)	2020	2019	2018	2017	2016
Surface water	327	330	314	275	247
Groundwater and seepage	129	115	127	160	148
Marine	146	93	63	133	99
Third party	34	35	30	26	37
Total	636	573	533	594	531
Discharges (by quality)	2020	2019	2018	2017	2016
Type 1	290	–	–	–	–
Type 2	127	–	–	–	–
Type 3	218	–	–	–	–
Fresh	–	376	362	351	331
Other	–	197	171	243	199
Total	636	573	533	594	531
Consumption	2020	2019	2018	2017	2016
Evaporation & other losses	438	575	650	523	640
Entrained in product and process waste	86	83	85	85	85
Total	524	657	734	609	725
Recycled/reused	2020	2019	2018	2017	2016
Total	335	331	296	304	282

Water quality type categories correlate with reporting requirements for the International Council of Mining & Metals (ICMM), Minerals Council of Australia (MCA) and the Global Reporting Initiative (GRI). For water definitions, including water type, please refer to the glossary on the 'Sustainability reporting' page on our website.

Note: The sum of the categories may be slightly different to the total, due to rounding.

Progress against our targets

Group target	Water risk theme	Status	Commentary
Rio Tinto Group (Tier 1) By 2023, we will disclose – for all managed operations – permitted surface water allocation volumes, annual allocation usage and the associated surface water allocation catchment rainfall runoff volume estimate.	Water resource	Achievable, plan in place	Progress remains on track despite some delay due to COVID-19. Additional resources allocated for 2021.
Site-based target	Water risk theme	Status	Commentary
Pilbara operations, Iron Ore (Tier 1) Our Iron Ore product group will complete six managed aquifer recharge investigations by 2023.	Dewatering (aquifer reinjection)	Achievable, plan in place	Successful completion of two of the proposed six managed aquifer recharge investigations.
Oyu Tolgoi, Copper & Diamonds (Tier 1) Oyu Tolgoi will maintain average annual water use efficiency at 550 L/tonne of ore to concentrator from 2019-23.	Water resource (intensity and efficiency)	Achieved for 2020	Average annual water use efficiency maintained below 550 L/tonne for 2019-20 period.
Kennecott Utah Copper (KUC), Copper & Diamonds (Tier 1) Kennecott will reduce average annual imported water per ton of ore milled by 5% over the 2014-18 baseline of 393 gal/ton (1,487L/ton) at the Copperton Concentrator by 2023.	Water resource (import reduction)	In progress, options being investigated	KUC remains committed to achieving its 2023 target through the ongoing improvement and effectiveness of imported water reduction measures.
Ranger Mine*, Energy Resources of Australia Limited (ERA), Energy & Minerals (Tier 1) ERA will achieve the planned total process water inventory treatment volume by 2023, as assumed in the Ranger water model.	Quantity/quality (inventory reduction)	Achievable, plan in place	ERA remains committed to achieving its 2023 target through the ongoing improvement and effectiveness of the process water treatment options.
QIT Madagascar Minerals (QMM), Energy & Minerals (Tier 2) QMM will develop and implement an improved integrated site water management approach by 2023.	Quantity/quality (discharge quality)	Achievable, plan in place	Water management improvement areas identified and implementation studies have commenced.
Queensland Alumina Limited (QAL), Aluminium (non-managed joint venture) (Tier 2) QAL will complete the following four water-related improvement projects from the QAL 5-year Environment Strategy by 2023: <ul style="list-style-type: none"> – Project L1 – integrity of bunds and drains – Project W3 – caustic pipe and wasteline 4 integrity – Project W6 – residue disposal area surface/ground water impacts – Project W7 – residue disposal area release to receiving environment 	Quality/quantity (discharge quality) JV performance improvement	Achievable, plan in place	Despite COVID-19 delays, progress for nominated water-related improvement projects is aligned with current project schedules.

Tier 1 water targets form part of the Rio Tinto external limited assurance programme.

Tier 2 water targets do not form part of the Rio Tinto external limited assurance programme.

* Ranger Mine is owned and operated by ERA. Rio Tinto is an 86.3% shareholder in ERA.

Sustainability

continued

More detailed information about our progress against our site-based water targets is available in the water section of our website.

Water withdrawals 2020 – by product group, region and source (in GL)

Product group	Region	Total	Surface water	Groundwater	Marine	Municipal	Third party	Entrained in ore
Aluminium								
Atlantic operations	Canada	23	19	1	0	2	1	0
	Europe	10	0	10	0	0	0	0
Pacific operations	Australia	103	18	21	53	10	0	1
	New Zealand	1	1	0	0	0	0	0
Total		137	38	31	53	13	1	1
Copper & Diamonds								
Copper	Asia	15	0	15	0	0	0	0
	US	39	11	28	0	0	0	0
Diamonds	Australia	10	8	2	0	0	0	0
	Canada	3	1	1	0	0	0	0
Total		67	20	46	0	0	0	1
Energy & Minerals								
Borates and lithium	Europe	1	1	0	0	0	0	0
	US	4	0	2	0	3	0	0
Iron and titanium	Africa	23	11	4	0	8	0	0
	Canada	50	47	2	0	0	0	0
	China	0	0	0	0	0	0	0
Iron ore	Canada	204	180	21	0	2	0	1
Uranium	Australia	10	10	1	0	0	0	0
Total		291	249	29	0	13	0	1
Iron Ore								
Iron ore	Australia	288	0	205	0	8	28	47
Salt	Australia	361	8	2	3	0	0	348
Total		649	8	207	3	8	28	395
Other								
Commercial	Not applicable	15	0	0	15	0	0	0
Exploration	Australia	0.07	0.00	0.07	0.00	0.00	0.00	0.00
	Other	0.05	0.01	0.03	0.00	0.00	0.00	0.00
Total		15.12	0.01	0.10	15	0.01	0.00	0.00

Note: The sum of the categories may be slightly different to the total, due to rounding.

Operational environment overview (2016-2020)

	2020	2019	2018	2017	2016
Significant environmental incidents	0	0	0	0	1
Fines and prosecutions – environment (US\$'000)	27.4	19.0	284.7	89.5	57.6
Land footprint – disturbed (square kilometres)	3,629	3,626*	3,595	3,616	3,696
Land footprint – rehabilitated (square kilometres)	491	490	485	497	541
Mineral waste disposed or stored (million tonnes)	969	905*	886	1,188	1,726
Non-mineral waste disposed or stored (million tonnes)	0.46	0.28	0.27	0.33	0.53
SO _x emissions (thousand tonnes)	74.1	79.0	84.2	86.9	88.0
NO _x emissions (thousand tonnes)	85.6	64.3	62.0	65.8	69.1
Fluoride emissions (thousand tonnes)	2.24	2.34	2.61	2.49	2.50
Particulate (PM ¹⁰) emissions (thousand tonnes)	55.4	55.4*	62.8	67.2	91.7

* Numbers restated from those originally published to ensure comparability over time.

Note: The increase of NO_x emissions from 2019 to 2020 is due to a change in the calculation method from emissions factors to direct measurement using stack sampling data.

In 2020, we paid environmental fines totalling \$27,387 resulting from storm water and tailings environmental releases at our Kennecott operations, in Utah, US, the death of a goitered gazelle in Mongolia and a spill of cell wash at NZAS in New Zealand.

In September 2018, QAL (a joint venture) experienced an alkali release that left the boundaries of the refinery. In December 2020, QAL was found guilty by Gladstone Magistrates Court of unlawfully causing serious environmental harm and contravening a condition of the Environmental Authority issued by the Queensland Government's Department of Environment and Science. Further details – including the steps QAL has taken to improve its environmental performance – are available on our website.

Please refer to the Sustainability Fact Book on our website for more detail.

Biodiversity

We are acutely aware of the interconnected challenges of climate change and biodiversity loss, and the significant risks these have for the environment, wildlife and humanity as a whole. We recognise our operations inherently pose a risk to biodiversity, as well as to the communities that rely on the environment – directly and indirectly – for their lives and livelihoods. Our aim is to avoid such harm when possible and mitigate it when we cannot avoid it.

Protecting biodiversity, therefore, is an important part of our commitment to communities and our employees, as well as to the environment. We are committed to minimising our risks and impacts to biodiversity through the application of the mitigation hierarchy, with the ambition of achieving no net loss to biodiversity at our assets. 'No net loss' means striking a balance between negative impacts on biodiversity and positive outcomes through mitigation.

To that end, we have been engaging with several external programmes to develop both our roadmap for disclosure and target-setting approach for biodiversity and land. For example, in 2020, we joined the Informal Working Group on the Task Force on Nature-related Financial Disclosures, which will help steer business towards positive outcomes for nature.

This year, to further sharpen our biodiversity management processes, we assessed all of our managed operations using an approach developed in 2019 by experts from the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC). Using this methodology – combined with global biodiversity datasets of threatened species and

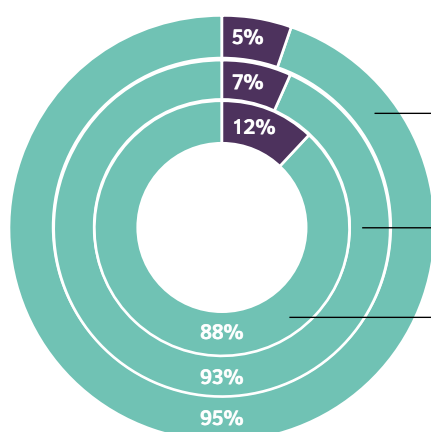
conservation and protected areas – we prioritised our operations based on their biodiversity sensitivity. Twenty-eight managed operations were identified as being within a five kilometre radius of a Protected Area; we confirmed 12 high-priority sites.

Also in 2020, we assessed the implementation of our biodiversity protection and natural resources management standard across all of our operations. The review indicated that the completion of risk assessments for biodiversity features, development of action plans and monitoring programmes across our operations is tracking well (see figure one). In 2021, we will focus on ensuring all priority sites have their monitoring programme independently reviewed – another key requirement of the standard.

Assurance processes such as these allow us to identify good practices for replication across the business, while also ensuring assets receive the right support and expertise to match their level of risk.

Figure one summarises the implementation of key components of the biodiversity protection and natural resources management standard for all managed sites with a focus on the high-priority sites.

Our biodiversity standard implementation status across all Rio Tinto sites

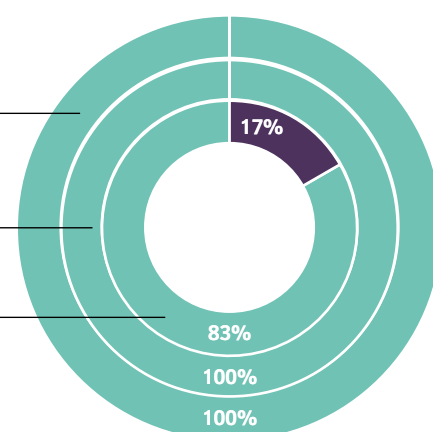


A risk and impact assessment on important biodiversity features has been completed

An action plan has been designed and implemented to address risks and impacts

A monitoring programme is in place as part of the action plan

Our biodiversity standard implementation status across Rio Tinto high-priority biodiversity sites



■ No ■ Yes

Sustainability

continued

Closure

We recognise our impact and responsibility do not end when our operations cease, so we consider closure in the way we design, build and run every site.

We seek to create a consensus with stakeholders on a shared vision for the land, balancing environmental and community considerations with long-term capital implications associated with water treatment, repurposing and/or remediating land. Our goal is to leave a positive legacy, delivering value for the Group and our stakeholders.

We have 92 active legacy assets around the world. At the end of 2020, closure provisions on our balance sheet totalled \$13.3 billion (compared with \$11.1 billion in 2019). This year, we have provided more detail on our financial liabilities related to closure – please see page 244 ^{AB}.

Over the next five years, we will transition a number of assets into closure and to their next use. Our Argyle diamond mine, in Western Australia, ceased production in 2020 after nearly 40 years of operation. Following closure, the land will be returned to the Traditional Owners as the custodians of Country, for activities such as cattle grazing, tourism, cultural use and possibly small-scale agriculture and native food production. We target 14% of our closure budget to be spent with Traditional Owners and local providers.

We are also supporting our Argyle employees' transition to new career opportunities, either within Rio Tinto or externally, based on their personal goals and preferences. We began a structured career coaching programme in 2017 to ensure people were well prepared for the mine's closure, which included providing formal training – of their choice – to all employees. To date, we have found new roles for 90% of Argyle employees who wanted to be redeployed within our company.

The Ranger uranium mine, operated by ERA, in the Northern Territory, Australia, ceased production in early 2021. Progressive closure of the mine is continuing; Pit 1 has been filled and is currently being revegetated and Pit 3 is being filled. ERA is tracking towards 2026 for the completion of closure work.

While mining continues at our Gove bauxite operations, also in the Northern Territory, we have begun progressive closure activities, including the decommissioning and demolition of the refinery. We are also planning for the next stage of closure by doing things like upgrading the water treatment plant. We expect our mining operations at Gove to cease in 2030.

Strengthening our approach

Our work supporting operating assets has also expanded and between 2018–20 we completed 14 asset closure strategies, covering 35% of our assets. These create a progressive vision for future land use after our operations cease and help ensure closure is considered throughout the asset lifecycle. All of our operating assets have tactical closure plans in place, aligned with our closure framework. We regularly review and update these plans to ensure they reflect stakeholder expectations and seek to improve our closure practices as we learn from them. At operations with joint ownership structures, we work in partnership with other asset owners to embed closure into asset design, planning and operations.

We continue to engage stakeholders of our sites nearing closure – including Indigenous peoples, government, employees and host communities – via engagements and partnerships, which in turn helps them plan their future. For example, collaboration with the local community and regulators at Mount Rosser, Jamaica, led to successful revegetation of this former bauxite mine, a legacy site, which now supports local employment and is also home to an increasing number of wildlife.

Our approach to supporting regional economic development includes a strong focus on economic diversification. We endeavour to foster wider economic activities alongside national and local governments and community development plans. This reflects our commitment to sustainability as well as our aim to have communities thrive long after our operations cease.

Accordingly, we look for commercial opportunities to repurpose assets to reduce the social and economic impact of closure. At a number of our former assets, we are exploring options to repurpose the site for renewable energy, such as our pilot photovoltaic cell facility at Marignac, France, a former ferro alloy plant. At times, we partner with universities and other companies to find opportunities to repurpose and reprocess waste and improve water and waste treatment. For example, in the Saguenay – Lac-Saint-Jean region of Quebec, Canada, we worked with local blueberry growers to create a safe and effective fertiliser made from waste created by our aluminium operations.

For more information on closure provisions and financial statements, refer to page 244 ^{AB} of this report.

Ethics and compliance

Our code of conduct, *The Way We Work*, lays out clear expectations on how we should conduct our business, and ourselves, no matter where we work or where we are from. Integrity is one of the five core values defined in *The Way We Work*: the courage and commitment to do what is right, not what is easy.

Business integrity

The Way We Work makes it clear that we do not offer, pay or accept bribes, no matter where we operate, no matter what the situation, and no matter who is involved. This position is further supported by our business integrity standard and procedure, which require employees, core contractors and associated persons acting for, or on behalf, of the company to not commit, authorise or be involved in bribery, corruption, fraud or other economic crimes. We also provide clear rules regarding third-party benefits, managing conflicts of interest, facilitation payment, sponsorships, donations and community support, mergers, acquisitions and joint ventures, and engaging third parties. We continue to co-operate fully with relevant authorities in connection with their investigations in relation to contractual payments of \$10.5 million made to a consultant who provided advisory services in 2011 on the Simandou project in Guinea. Please refer to the Contingent Liabilities on page 261 [46](#) for further information.

Our business integrity compliance programme, which is managed independently of our business's operations, is designed to manage our compliance risks and regulatory requirements in the jurisdictions where we conduct our business.

In 2020, we established a new risk and monitoring forum to monitor the management of Group-level business integrity risks and ensure our key internal compliance controls are effective.

We also engaged external experts and finalised maturity assessments of our data privacy and business integrity compliance programmes. We rated well overall, but there are always opportunities to improve; we are implementing actions as needed.

In 2020, we expanded our business integrity standard and procedure to strengthen controls in areas such as terrorist financing and anti-money laundering, as well as reducing declaration thresholds for giving and receiving benefits and making sponsorships and donations. We also enhanced controls to manage third-party business integrity risks by improving our due diligence and monitoring processes, adding more controls for high-risk, third-party engagements and payments and providing training for third parties, where needed.

Employees are required to complete annual online compliance training, tailored to suit the risks employees are most likely to encounter in their roles. This year, we also provided additional risk-based training to 4,410 employees and contractors in 23 countries, and launched enhanced business integrity training online, covering integrity-driven decision making, anti-bribery and corruption, anti-money laundering and fraud for higher risk roles. In 2020, we also developed our ethics ambassadors programme to extend the sharing and reach of integrity insights and champion an integrity-driven culture across the business.

Finally, in response to COVID-19, we conducted a Group-level risk assessment and implemented monitoring and due diligence activities, such as supporting compliance reviews of community preparedness and recovery donation proposals.

Whistleblower programme

A key change this year was to establish the Business Conduct Office, a dedicated team responsible for the management of the whistleblower programme.

In 2020, we reviewed 748 incidents reported through whistleblower programme channels, 42% of which were substantiated. There were 113 (15%) business integrity cases reported, of which 34 cases (30%) were substantiated.

Whistleblower programme

	Cases			Types of whistleblower programme cases					
	Number of cases	Cases substantiated	Personnel	Business integrity	Information security	Health and safety	Communities	Finance	Other
Whistleblower programme	748	42%	55%	15%	13%	9%	3%	1%	4%

Training

4,410 employees and contractors in 23 countries had face-to-face training in recognising and managing business integrity dilemmas.

Value chain

	2020
Due diligence checks on third parties, ('Know Your Customer' & 'Know Your Supplier')	4,055
Due diligence checks on third parties – baseline screening only	20,371
Centrally monitored third parties*	30,120

* Once third parties are screened, they then form part of ongoing monitoring.

We have applied the reporting principles of GRI 101: Foundation 2016 Standard in this report.

Sustainability continued

Transparency

We believe transparency both encourages accountability – ours as well as others’ – and allows us to have fact-based conversations about the issues at hand.

In 2010, we pioneered transparency in tax payments within the mining industry, and in 2018, became a signatory to the B Team Responsible Tax Principles. We continue to report in increasing detail on taxes and royalties paid and economic contribution. We are a founding member of the Extractive Industry Transparency Initiative (EITI) and have actively supported EITI’s principles and global transparency and accountability standard since 2003.

In 2020, for the first time, we released comprehensive financial and tax disclosures for 2018 for each country where we operate, through our 2018 Country by Country Report. In 2021, we will make additional disclosures, thereby fully implementing the requirements of the tax and payments to governments standard of the Global Sustainability Standards Board of the Global Reporting Initiative.

We also disclosed additional mineral development contracts with governments, where they are not subject to confidentiality restrictions, thus meeting the commitments we made in our Transparency Statement, available on our website. We continue to encourage governments to allow such disclosures. We also continued to disclose information about the beneficial owners of our joint ventures in line with EITI standards and expectations.

Political integrity

As a company, we do not favour any political party, group or individual, or involve ourselves in party political matters. We do not contribute to political parties or candidates.

Our business integrity standard and procedure includes strict guidelines for dealing with current and former government officials and politicians, including that they cannot be appointed to company positions or engaged as consultants, in certain circumstances, without approval of executive leadership and the Chief Ethics & Compliance Officer.

We engage in public policy on issues that affect or could affect our business, including by contributing relevant information and sharing experiences that help create viable outcomes. For example, we provided submissions to the Government of Western Australia and engaged in the broader public consultation process to facilitate the repeal and replacement of the Aboriginal Heritage Act 1972 with a modernised act reflective of current practice and expectations.

We join industry associations where membership provides value to our business, investors and other stakeholders. We publish on our website the principles that guide our participation, the way we engage, as well as a list of the top five memberships by fees paid. We also track and disclose how we engage on climate policy issues, disclosing when positions and advocacy are significantly different to those we set out in our industry association documentation.

Our approach to sustainability

The Sustainability Committee oversees strategies designed to manage social and environmental risks, including management processes and standards. The Committee reviews the effectiveness of management policies and procedures relating to safety, health, employment practices, relationships with neighbouring communities, environment, human rights, land access, political involvement and sustainable development. For more about our Sustainability Committee, including the terms of reference, see the Governance section of this report.

We complete a sustainability materiality assessment every year to ensure we are publicly reporting on topics that matter most to our stakeholders and to our business. In simple terms, a sustainability materiality assessment records the threshold at which an issue or topic becomes important enough to be reported on externally. This considers the impact and level of perceived importance to stakeholders. This differs from financial materiality, which may use financial metrics or other quantitative analyses to determine what would be considered a significant, or material, impact. Not all sustainability-related topics have the same risk profile, which the assessment reflects.

Last year, we altered the approach to our sustainability materiality assessment. We used various sources of direct input from external engagement to strengthen our understanding of what is important to stakeholders. This revised approach combined the views of our external stakeholders with those of our internal subject matter experts (SMEs) through a quantitative and qualitative assessment.

This year, we engaged an independent external assurance organisation, KPMG, to provide the directors of Rio Tinto with assurance on selected sustainability subject matters. In 2019 and years prior, PricewaterhouseCoopers LLP provided this independent external assurance. KPMG's assurance statement satisfies the requirements of subject matters 1 to 4 of the ICMM assurance procedure. See page 133 ^{AR} in the Governance report for more information about our external auditors and internal assurance.

Non-financial information statement

This section (pages 62-91) provides information as required by regulation in relation to:

- Environmental matters
- Our employees
- Social matters
- Human rights
- Corruption and bribery

Other related information can be found as follows:

- Our business model – page 16
- Principal risks and how they are managed – pages 92-108
- Non-financial key performance indicators – pages 24-28

Notes on data

The data summarised in this sustainability section relates to calendar years. Unless stated otherwise, parameters are reported for all managed operations without adjustment for equity interests. Where possible, we include data for operations acquired before 1 October of the reporting period. Divested operations are included in data collection processes up until the transfer of management control.

We report against GRI standards and the requirements of other select reporting frameworks, and reflect the ten principles of the ICMM and the mandatory requirements in the ICMM position statements within our policies, standards and procedures. For more information please visit [riotinto.com](https://www.riotinto.com).

Sustainability

continued

Voluntary commitments, accreditations and memberships

We take part in a number of global, national and regional organisations and initiatives that inform our sustainability approach and standards, which in turn allows us to better manage our risks. External organisations and initiatives assess and recognise our performance, and we participate in industry accreditation programmes for some of our products.

These organisations and initiatives include the following:

Aluminium Stewardship Initiative (ASI)

The ASI aims to create sustainability and transparency throughout the aluminium industry. It has developed the world's first global Responsible Aluminium Standard, used to assess environmental, social and governance practices across the aluminium supply chain for responsible sourcing. We were the first company in the world to receive certification under the ASI.

Business for Social Responsibility (BSR)

BSR is a global non-profit organisation that works with its network of more than 250 member companies and other partners to build a just and sustainable world. As a member, we share information on sustainable practices.

Extractive Industries Transparency Initiative (EITI)

We are a founding member of the EITI and have played an active role in this global standard since 2003. The EITI promotes open and accountable management of natural resources to make sure our activities benefit the many, not the few. We are transparent about the taxes and royalties we pay – publishing an annual Taxes Paid Report since 2010.

Global Reporting Initiative (GRI)

GRI is an international independent organisation with an international framework and standards for sustainability reporting. Our Group-level sustainability reporting is informed by the GRI Sustainability Reporting Standards (Core option) and the GRI Mining and Metals Sector Supplement.

International Council on Mining & Metals (ICMM)

As a member, we commit to implementing and reporting on ICMM's 10 Principles for Sustainable Development. These cover corporate governance, environmental stewardship and community engagement. Our Chief Executive is a member of the ICMM Council, and we participate actively in various working groups.

Kimberley Process (KP)

We participate in the Kimberley Process through our involvement with the World Diamond Council (WDC). The KP focuses on preventing conflict diamonds from entering the global supply chain.

London Bullion Market Association (LBMA)

The LBMA has renewed Rio Tinto Kennecott's responsible gold certificate, which guarantees that the precious metal produced from Kennecott's refinery can be sold and traded globally. The certificate is one of the requirements for a gold refinery to be placed on the LBMA's Good Delivery List, universally acknowledged as the international standard for quality and responsible production. Many precious metal exchanges will accept gold bars only from refineries that appear on the list.

OECD Guidelines for Multinational Enterprises

The OECD Guidelines for Multinational Enterprises are recommendations by governments to multinational enterprises operating in or from adhering countries. They include non-binding principles and standards for responsible business conduct in a global context consistent with applicable laws and internationally recognised standards. These guidelines are a multilaterally agreed and comprehensive code of responsible business conduct that governments have committed to promoting.

Proteus Partnership

The Proteus Partnership was formed in 2003 as a collaborative effort between leading extractive companies and the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) to improve accessibility to biodiversity data for better decision making and support the further development of global biodiversity resources. As a Proteus Partner, we have access to the UNEP-WCMC online biodiversity assessment tool, which allows us to scan for potential sensitive areas in places where we are seeking tenure before major investments are made.

Responsible Jewellery Council (RJC)

The RJC is an international non-profit organisation that promotes transparent and responsible ethical, human rights, social and environmental practices throughout the jewellery industry – from mine to retail. We are a founding member and were the first mining company to be certified in 2012. We were re-certified in 2015 against the RJC Code of Practice Standard. RJC certification covers operations or activities of our businesses that produce diamonds, gold or gold in concentrates that contribute to the jewellery supply chain. This includes our diamond mines – Diavik in Canada and Argyle in Western Australia – and our Kennecott copper mine in Utah for gold.

The B Team Responsible Tax Principles

We are a signatory to The B Team Responsible Tax Principles, developed by a group of cross-sector, cross-regional companies to define what leadership in responsible tax looks like. The disclosures in our Taxes Paid Report, available on our website, demonstrate our approach to the B Team's seven 'Responsible Tax Principles'.

The Copper Mark™

Developed by the International Copper Association – with input from a broad range of stakeholders including customers, NGOs and producers – The Copper Mark™ is a comprehensive, credible assurance framework to demonstrate the copper industry's responsible production practices and industry contribution to the United Nations Sustainable Development Goals. Our Kennecott mine, in Utah, in the United States, and Oyu Tolgoi, in Mongolia, were the first producers to be awarded the Copper Mark – verifying our copper as responsibly produced.

Towards Sustainable Mining (TSM)

We participate in the TSM programme through our membership of the Mining Association of Canada (MAC). TSM is a sustainability certification that applies to members of MAC operating in Canada.

United Nations Universal Declaration of Human Rights (UDHR)

The UDHR is a milestone document in the history of human rights, which sets out, for the first time, fundamental human rights to be respected. We respect and support all internationally recognised human rights consistent with the UDHR.

United Nations Global Compact (UNGC)

The UNGC is a voluntary initiative based on CEO commitments to implement universal sustainability principles and to take steps to support UN goals. As members, we incorporate the Ten Principles of the UN Global Compact into strategies, policies and procedures.

United Nations Guiding Principles on Business and Human Rights (UNGPs)

The UNGPs are a global reference point for preventing and addressing the risk of adverse impacts on human rights linked to business. We seek to operate in a manner consistent with the UNGPs.

United Nations' Sustainable Development Goals (SDGs)

The SDGs are a set of 17 goals and 169 targets endorsed by the UN in 2015. These present a broad sustainability agenda focused on the need to end poverty, fight inequality and injustice and respond to climate change by 2030. Please see page 65 for more on our approach to the SDGs.

Voluntary Principles on Security and Human Rights (VPSHR)

The VPSHR guides extractives companies on how to maintain the safety and security of their operations in line with respect for human rights. Participants, including governments, companies and non-governmental organisations, agree to proactively implement or support the implementation of the VPSHR. We published our VPSHR report for the first time in 2018 (previously only provided to other participants) and have committed to doing this each year.



Risk Management

Taking and managing risk responsibly is essential to running our business safely, effectively and in a way that creates value for our customers and shareholders, employees and partners.

Effectively managing our risks ensures we meet our strategic objectives, mitigate threats and create opportunities in alignment with our values – Safety, Teamwork, Respect, Integrity and Excellence.

Our approach

Effective risk management is necessary to manage both threats and opportunities to our strategy and operations. Our risk management process helps us identify, evaluate, plan, communicate, and manage material risks that have the potential to impact our business objectives. While risk management is a key accountability and performance criteria for our leaders, all employees have a responsibility for identifying and managing risks. Our Board and Executive Risk Management Committee provide oversight of our principal risks and associated management responses described on pages 95-105. The Audit Committee monitors the effectiveness of risk management and internal controls. Our risk management system is made up of six core elements (see page 93) – one of which is our risk management framework, which sets out clear roles and responsibilities, standards and procedures. We also have three lines of defence to verify that risks are being effectively managed in line with our policy, standards and procedures, including across core business processes such as finance, health and safety, social performance, environment and major hazards. You can view our risk management standard at www.riotinto.com.

The overall effectiveness of the risk management framework requires clear expectations and consistency of application of the framework, across different product groups and businesses, countries of operation and functional areas of expertise.

This clearly did not happen in the case of the events leading to the destruction of the rock shelters at Juukan Gorge in May 2020. Following the events at Juukan Gorge, we have made changes to cultural heritage risk management within that framework. These changes strengthen the first and second lines of defence, establishing a Communities and Social Performance Area of Expertise to deliver a more rigorous assurance framework with regard to the way we manage host communities and cultural heritage risks across our operations globally. The tragedy of Juukan Gorge highlights the critical dependency on risks being identified and then monitored on an ongoing basis by operational management (within the first line of defence). From there, if circumstances change, the risk needs to be escalated quickly and appropriately to senior leaders and the relevant functional experts within the second line. The second and

third lines also need to be sufficiently well connected to identify the true nature of the underlying risk and how this may then be symptomatic or thematic for other assets or jurisdictions within the Group.

Of course, all of this system of risk management and internal control is predicated upon a culture that recognises and prioritises cultural heritage specifically, and more generally supports the timely and effective communication and escalation of risk. Fundamentally, risk frameworks are only ever as good as the information that flows through them, and the experience and judgment of individuals in key positions. This is particularly important in a group that is of our size, scale and complexity.

The Board, Audit Committee and our business and functional management teams are all determined to play a part in making these improvements to the overall culture and systems of risk management and internal control to ensure that the lessons learned from Juukan Gorge are applied to other risk areas, particularly other environmental and social risks.

Every part of our risk management framework is there to challenge and evaluate the status of our risk profile in the pursuit of our business objectives. The way we challenge the status is by having three lines of defence that support leaders in critically reviewing and validating their own operating assumptions.

Three lines of defence	Responsibilities	Accountability of
1 st – All operational leaders	Identification, management, verification and monitoring of risks and controls	Management
2 nd – Centre of Excellence and Areas of Expertise	Oversees risks, control effectiveness, advice on capability and ensures objective assurance against Group's policies, standards and procedures	Management
3 rd – Group Internal Audit	Provides independent verification that risks and internal controls are being managed effectively	Board and Board committees

Risk assurance

- Assurance for management that risks and critical controls are being managed effectively.

Capability and culture

- Risk capability built through coaching and training for leaders and teams across our business
- Risk culture of active management of risks is embedded into how we run our business
- Risk culture fosters collective ability to identify and understand, openly discuss and respond to current and future risks.

Systems, technology and data analytics

- Leverage systems and data analytics to support risk analysis, management and oversight.

**Risk management framework**

- Group's roles and responsibilities, standards, procedures and guiding principles for effective, consistent and integrated risk management.

Risk analysis and management

- Risks are measured, monitored and managed, which requires that critical controls performance is also being measured, monitored and managed
- Risks and their control information are current, transparent and connected
- Leader-led analysis and management.

Reporting oversight and insights

- Management's oversight is supported by proactive reporting and effective escalation
- Decision-making is supported by connected and insightful risk analysis.

Emerging risks

As a company, we are inherently exposed to long-term risks because of our long-life operations and growth pipeline. We track leading indicators of emerging risks and their likely impact on our long-term prospects. We proactively analyse the impact of these risks on our business model through plausible scenarios of the interplay between geopolitics, societal expectations and technology advancement.

The COVID-19 pandemic has brought additional uncertainty globally and the recovery pathway remains unclear. Our agility and resilience has enabled us to continue to operate, deliver products to our customers and contribute to economies and communities. Since early 2020, we have activated business resilience teams across our global operations, introduced strict health measures to protect our employees and communities, and adapted our systems to support a significant number of employees working from home. We continue to closely monitor the potential short-to-long-term impacts on our business. This includes impacts on our employees, supply chain, market demand and trade, as well as the resilience of global financial markets to support an economy recovery.

Emerging risks by nature are highly uncertain, with scope for rapid or non-linear evolution. The main categories of emerging risks that we monitor continuously, and that could potentially have an impact (positive or negative) on the Group are described below:

Trade tensions: Trade is an essential part of our business, and the mining sector in general, as the majority of our products cross national borders. Throughout the year, we have seen the dynamics of geopolitics causing volatile market conditions including the introduction of tariffs on various goods between China and the US, tariffs on Canadian aluminium imports to the US, a targeted reduction on imports from Australia by China and tightening of foreign investment laws in Australia and Canada. Although we have not been significantly affected by these dynamics to date, we monitor these trends closely, and in particular the evolution of the relationship between Australia and China.

Increasing societal and investor expectations: In 2020, we continued to see increasing expectations and focus on social equality, fairness and sustainability – and how companies address these issues. Financial institutions are also placing greater emphasis on environmental, social and governance (ESG) considerations when making investment decisions. The increasing focus on ESG has the potential to shape the future of the mining industry, supply cost structures, demand for global commodities and capital markets. While this presents us with opportunities for portfolio and product differentiation, it has the potential to impact how we operate.

Host communities and cultural heritage: We are committed to strengthening our relationships with host communities, including Traditional Owners and First Nations and improving the way we manage cultural heritage. We have taken a number of actions to address the lessons learned from Juukan Gorge, including establishing a standalone Communities and Social Performance (CSP) Area of Expertise, which will deliver more rigorous assurance across our operations and elevate communities risk processes. We have also set up an Integrated Heritage Management Plan with strict approval protocols at both the product group and Group levels. We include more detail about the actions we are taking in response to Juukan Gorge on 114-115.

Resource depletion: The continual replenishment of economically viable resources is essential for our future growth. Our past divestments, planned closures and uncertainty over resource assumptions – without reciprocal resource replenishment through exploration or acquisitions – could impact our growth options. Additionally, our ability to access resources could potentially be impacted as regulations evolve.

Transition to a low-carbon future: Climate change constitutes an important part of our sustainability approach. Climate change risks have formed part of our strategic thinking and investment decisions for over two decades. The transition to a low-carbon future presents both challenges and opportunities for our portfolio over the short to long term. Key areas of uncertainty include future climate change regulation and policies, the development of low-carbon technology solutions and the pace of transition across our value chains, in particular the decarbonisation pathways across the steel sector.

We are targeting a 15% reduction in absolute emissions from 2018 levels by 2030, with an ambition to reach net zero emissions by 2050 across our operations. Overall, our growth between now and 2030 will be carbon neutral. We continue to enhance our monitoring and management of greenhouse gas emissions, water and land use, and rehabilitation.

We are also actively engaging in partnerships to explore ways to improve environmental performance across our value chains, such as with China Baowu Steel Group, Tsinghua University and Nippon Steel Corporation in the steel sector, and the ELYSIS™ joint venture in the aluminium sector. We are also active participants in the International Council on Mining and Metals and the Climate-Smart Mining initiative. Please refer to our climate change report, available on our website, for further details.

Risk Management

continued

Structural change across commodity markets: The increasing focus on ESG investors and the developments of current geopolitical tensions, coupled with the transition to a low-carbon future, have the potential to structurally change the supply and demand of global commodities. Demand for our commodities could shift to 'greener' alternatives, with a higher dependence on recycling, ie secondary supply. Alternatively, an increased focus on ensuring supply security could see large volumes of supply enter the market, potentially impacting future margins.

Technology advancement: Technological advances bring both opportunities and threats for our business. Digital connectivity has enabled us to conduct essential activities, including assurance work, at remote sites where travel has been restricted due to COVID-19. Technology will also be a key enabler to reaching our net zero emissions ambition, through initiatives such as decarbonising the electricity network at our Pilbara iron ore operations in Western Australia and the ELYSIS™ carbon-free aluminium smelting process. However, cyber attacks are becoming more prevalent and we have had to invest significantly in technology to enhance our cyber security.

Longer-term viability statement

As discussed above, we closely monitor and assess the impact of key emerging risks on our long-term prospects and, where possible, proactively build response plans into our investment decisions.

Our long-term planning reflects our business model of running our business in ways that are safer, smarter and more sustainable. To ensure we remain resilient in the long term, our business model is continuously stress tested against the key uncertainties within the emerging risks, with recommended actions to mitigate potential downside. These are presented to the Board on an annual basis as part of the Group strategy discussions. We then develop our strategy and make capital investment decisions based on this assessment. We also regularly assess our financial investment capacity to ensure our capital commitments can be funded in line with our disciplined approach to capital allocation.

Our business planning processes include preparing a one-year detailed financial plan and a longer-term life-of-asset outlook. This planning process includes modelling a series of macroeconomic scenarios and using a range of assumptions that consider both internal and external factors. As part of our robust risk management framework, we closely track, monitor and mitigate principal risks to our business plan and model.

The key assumptions underpinning our long-term plan include:

- long-term economic growth and commodity demand in major markets, such as China;
- continued access to and economic viability of resources and reserves to support organic and inorganic growth programmes;
- pathways to reduce carbon footprint;
- no significant industry-wide disruptive technology or productivity enhancement that unlock very low cost supply; and
- no operational risks materially impacting the long-term plan.

Our business plan and macroeconomic forecast has its greatest level of certainty in the underlying assumptions in its first three years. However, our longer-term viability assessment examines the first five years (2021-25) of the business plan. This not only enables a detailed analysis of potential impact of risks materialising in quick succession in the first three years but also enables us to further stress test the business plan for risk materialising towards the end of the time period, although with lesser certainty. This allows directors to assess our capacity to exercise financial levers available in both the three-year and five-year time frame to maintain the Group's viability.

The principal risks and uncertainties included in our longer-term viability assessment are as follows:

- Economic risk: A global financial crisis triggered as the COVID-19 pandemic persists and global tensions intensify that lead to positive but low growth in China and an economic downturn in the rest of the world. Large negative pricing shocks are assumed in 2021, followed by persistent slow growth rates.
- Operational risk: A 'one-off' catastrophic event resulting from a major operational failure, such as a tailings and water storage facility failure, extreme weather event, underground or geotechnical event resulting in multiple fatalities, cessation of operations and significant financial impacts.

We quantify the expected financial impact of each risk based on internal macroeconomic and business analysis, as well as internal and external benchmarking on similar risks. We apply a probabilistic approach to quantify risks and impacts where relevant. Although the likelihood of more than one principal risk materialising in close succession is unlikely, the stress test assumes these risks could materialise individually and in multiple combinations to create severe but plausible scenarios that could threaten the Group's viability.

Applying these scenarios, the first five years of the Group's business plan is stress tested to assess the impact on the Group's longer-term viability, including whether additional financing facilities will be required. In addition to liquidity and solvency, the assessment also considers other financial performance metrics such as cash flow, debt capacity and credit rating, as well as dividend payments. These metrics are subject to robust stress tests and reverse stress tests.

Taken in isolation, each risk does not threaten the viability of our business model. The main impact from each risk is a significant decrease in our free cash flow and subsequent reduction in the dividend. We have levers in place to maintain adequate levels of liquidity, including reducing discretionary capital expenditure and accessing lines of credit.

The most 'severe' scenario, albeit unlikely, considers the financial impact of both economic and operational risks materialising in a single year at the start of the assessment period, followed by a second operational risk occurring towards the end of the five-year time period. This scenario would create both an immediate and prolonged severe impact, followed by a second impact on the Group's financial performance towards the end of the period of assessment with an estimated negative free cash flow of \$11 billion. The Group has a suite of management actions available to preserve resilience, including accessing lines of credit, reducing capital expenditure and raising debt while maintaining the shareholder return policy. Our financial flexibility could potentially be limited during the peak of the crisis. The viability of the Group under all the severe but plausible scenarios tested remained sound.

Although we have made significant efforts to predict global recovery pathways from the COVID-19 pandemic, there still remains large uncertainty on how the situation will develop and how far reaching the impact will be. We have assumed a 'severe' recovery pathway to mitigate some of this uncertainty and give a greater level of confidence to the directors in assessing our long-term viability.

Therefore, taking into account the Group's current position and the robust assessment of our principal risks, the directors have assessed the prospects of the Group over the next five years (until 31 December 2025) and have a reasonable expectation that we will be able to continue to operate and meet our liabilities as they fall due over that period.

Principal Risks and Uncertainties

continued

1. Living our corporate values

Strategic
ESG

Living our values (Safety, Teamwork, Respect, Integrity and Excellence) goes to the heart of our Group's performance, future prospects and reputation. Sharing and demonstrating our values through our behaviours together unlocks opportunities for high performance in all that we do.

Management response

Our code of conduct, *The Way We Work*, provides clear guidance on how we should conduct our business, no matter where we work or where we are from. The following programmes have been deployed to support our leaders and teams in living our values:

- Leader and employee training in our values and behaviours.
- Business integrity training tailored to their role responsibilities and risk exposures.

Opportunities

Our reputation and ability to build respectful and trusting partnerships is dependent on our business conduct consistent with our corporate values.

Threats

COVID-19 travel restrictions have reduced the ability to have face-to-face cultural and leadership development programmes. Hence, we are finding new ways to engage, induct and develop our people through use of virtual and online programmes.

Trend



Potential impact

- Group reputation
- Licence to operate
- Future financial and operational performance

2. Geopolitics impacting trade and/or investment

Strategic



International geopolitics may impact our ability to operate effectively and/or invest.

Management response

We aim to mitigate the impact of geopolitics by:

- Continually testing the resilience and optionality from our diverse portfolio of commodities, markets and jurisdictions.
- Ongoing monitoring of the political environments where we operate as well as our key markets and engagement with government and customers in those areas.

Opportunities

Operations spanning diverse commodities and jurisdictions provide resilience against country-specific tariffs.

Threats

Increased trade tensions may undermine rules-based trading system and lead to trade actions (increased tariffs and retaliation), potentially impacting key markets for our products.

Trend



Potential impact

- Future financial performance
- Liquidity
- Group reputation

3. Transition to a low-carbon future

Strategic
ESG

Climate change is a systemic challenge and will require co-ordinated actions between nations, industries and society. Our risk is that we do not adapt competitively to the requirements of a low-carbon future, including expectations of Scope 3 commitments in the products we produce and the way we operate our business, resulting in reputation damage with key stakeholders eroding investor confidence, market value and business resilience.

Management response

Climate change has formed part of our strategic thinking and investment decisions for over two decades. We continue to be part of the solution by:

- Setting targets to reduce our emissions (on an absolute and intensity basis) over the short, medium and long term.
- Investing approximately \$1 billion over five years in emissions reduction projects.
- Engaging with key stakeholders on climate change issues, including investors, industry associations and governments.
- Partnering to reduce the carbon footprint across our value chain. This includes the development of new partnerships for technologies and responsible sourcing to explore pathways with our customers and suppliers to improve the environmental performance of our product value chains.
- Investing in projects and research and development initiatives that will increase the supply of the materials essential to a low-carbon future.
- Considering climate change in our strategic and operational decision-making, including the use of an internal carbon price.

Opportunities

Each of the commodities we produce has a role to play in the transition to a low-carbon future – aluminium in electric vehicles, copper in wind turbines, iron ore for critical infrastructure and minerals for rechargeable batteries, such as lithium.

Threats

Current and emerging climate regulations have the potential to result in increased costs, change supply and demand dynamics for our products and create compliance risks, all of which could impact our financial performance and reputation.

Trend



Potential impact

- Business model value
- Future financial and operational performance
- Group reputation
- Partner to operate

4. Execution of acquisitions and divestments

Strategic



Acquisitions' (or divestments') actual realised value may vary materially from original business case.

Management response

We practise a disciplined approach to acquisitions and divestments that includes:

- Detailed, objective due diligence on all material divestments and acquisitions.
- Rigorous third-party due diligence and assurance.
- Involving business unit leaders early in the process to manage post-acquisition integration into the Group.
- Conducting post-investment reviews on divestments and acquisitions to identify key learnings and embed them in future initiatives.

Opportunities

Proceeds realised from divested assets are greater than planned, allowing more capital to be returned to shareholders or redeployed into higher-returning or more productive uses.

We successfully acquire and integrate businesses on acceptable terms that provide sustainable future cash flow and/or future growth options.

Threats

Value is not realised from divestment or acquisition through changing or incorrect assumptions, unanticipated liabilities or integration costs.

Trend



Potential impact

- Valuation
- Future financial performance
- Solvency
- Liquidity
- Group reputation

Principal Risks and Uncertainties

continued

5. New ore resources

Strategic
ESG

The success of exploration programmes and/or acquisitions may be insufficient to offset depletion.

Management response

We have grouped the reporting lines of our Exploration, Mergers and Acquisitions and Group Strategy teams under one Executive Committee member to better leverage our collective knowledge of opportunities. This enhances our ability to:

- Continually review opportunities in the exploration and acquisitions portfolios and prioritise accordingly.
- Leverage and develop new technologies for exploration and evaluation of reserves/resources.
- Create and maintain third-party partnerships to grow our portfolio.

Opportunities

Exploration and/or acquisitions have the potential to increase resources in commodities currently within our portfolio or diversify into new commodities. We focus our activity on our highest-value projects, particularly on evaluating the Resolution Copper project in Arizona, US, and advancing our Winu copper/gold deposit in Australia. When determining targets, we consider our customers' and society's needs for new products and design our strategy to maximise opportunities.

Threats

Recent assessment indicates a net decrease in our resources and reserves across all commodities. New large, long-life deposits are increasingly scarce and those that are known require advances in processing technology and/or significant capital investment in infrastructure.

Trend



Potential impact

- Valuation
- Future financial and operational performance
- Group reputation

6. Strategic partnerships

Strategic
ESG

Strategic partnerships play a material role in delivering our growth, production, cash or market positioning, and these may not always develop as planned. Strategic partnerships include our Traditional Owners, customers, joint ventures partners (managed and non-managed), governments and our suppliers.

Management response

We approach investments and partnerships with a view to long-term development of relationships rather than short-term transactional advantage. To support that we:

- Actively participate within the governance structures of joint ventures to promote, where possible, alignment with the Group's policies and strategic priorities.
- Modernise our agreements with Traditional Owners, which includes modifying clauses to ensure respect, transparency and mutual benefit.
- Engage in partnerships to explore ways to improve environmental performance across our value chains, such as with China Baowu Steel Group and Tsinghua University and the ELYSIS.

In addition, our code of conduct, *The Way We Work*, provides clear guidance on how we should conduct our business, no matter where we work or where we are from.

Opportunities

Strategic partnerships offer opportunities to create mutual benefits for all parties involved by leveraging the differing strengths of the participants. This may be realised through increased community participation in employment and procurement opportunities, access to resources, increased shareholder returns, or reduced political, portfolio and operational risks. Where we partner in operations, we seek to bring a commensurate level of rigour and discipline to our managed and non-managed joint ventures as we do to our wholly-owned assets, through engagement and influence and in line with applicable laws.

Threats

Disruption to our partnerships may limit the expected benefits received by participants and lead to interruptions to our operations, development projects and exploration activities. For non-managed operations, the decisions of the controlling partners may cause adverse impacts to the value of our interest in the operation, or to our reputation, and may expose us to unexpected liabilities.

Trend



Potential impact

- Group reputation
- Future financial and operational performance
- Valuation

7. Relationships with communities

Strategic
ESG

We may not be viewed as a trusted partner by society and governments, affecting our ability to operate and grow through collaborative and mutually beneficial partnerships.

Management response

We aim to make a positive contribution to the communities in which we operate through:

- Establishing a Community and Social Performance (CSP) Area of Expertise to deliver a more rigorous assurance framework across our operations and elevate CSP risk processes.
- Ensuring respect for communities' human rights, aligning our commitments with international standards.
- Modernising our agreements, which includes modifying clauses to ensure respect, transparency and mutual benefit.
- Implementing an integrated cultural heritage management system with strict approval protocols at both the product group and Group levels.
- Developing mutually beneficial partnerships with local communities and establishing appropriate social performance targets.
- Instigating community investment programmes.
- Implementing local procurement policies and targets.
- Setting local content commitments for major capital projects.

Opportunities

Strong relationships with the communities in which we operate have the potential to provide stable operating environments. Respectful and positive engagement with communities, governments and other stakeholders can support access to new resources, create stable and predictable investment and operating environments, and shape mutually beneficial policies and legal/regulatory frameworks.

Threats

Access to land and resources may be impacted if we are not considered a trusted partner in certain regions. Other potential actions can include litigation, expropriation, export or foreign investment restrictions, increased government regulation and delays in approvals, which may threaten the investment proposition, title, or carrying value of assets.

Trend



Potential impact

- Group reputation
- Future financial and operational performance

8. Attract and retain requisite skilled people

Strategic
ESG

Our ability to maintain our competitive position is dependent on attracting, developing and retaining services of a wide range of internal and external skilled and experienced personnel and contracting partners.

Management response

Attracting, developing and retaining the best people is crucial to our success. We aim to achieve this by:

- Investment in leadership and team member skills to develop an environment of inclusion to attract and leverage our diversity.
- Talent management and planning.
- Engagement strategy that is able to respond to changing external and internal expectations of people.
- Maintain a safe working environment.
- Maintain competitive remuneration and benefits.
- Provide learning and career development opportunities for our people to build skills for today and our future.

Opportunities

Enhance productivity and business resilience through building operational and commercial excellence. Higher local employment can increase our business resilience and community trust.

Threats

Business interruption or underperformance may arise from a lack of capability in people, standards, processes or systems to prevent, mitigate or recover from an interruption which results in a material loss to the Group.

Trend



Potential impact

- Future financial and operational performance
- Communities and social performance
- Group reputation

Principal Risks and Uncertainties

continued

9. Commodity economics

Economic



Commodity prices, driven by demand for and supply of our products, vary and may not be as expected over time. China is the largest market for our products and its growth pathway could affect demand for our products.

Management response

We operate in global markets and accept the value impact of exchange rate movements and market-driven prices on our commodities. Our approach includes:

- Maintaining low-cost production, allowing profitable supply throughout the commodity price cycle. We deliver this through productivity initiatives that seek to create value and/or reduce waste and procurement and supply chain management practices that respond to changes in input costs.
- Maintaining a diverse portfolio of commodities across a number of geographies.
- Maintaining a global portfolio of customers and contracts.
- Leveraging market-facing sales, marketing and trading resources in the Group.
- Monitoring multiple leading indicators and undertaking detailed industry analysis to inform our forecasting assumptions and using scenarios to test the resilience of our portfolio and exploring opportunities.

Opportunities

A rise in commodity prices or favourable exchange rate movements generates more cash flow from our operations, enabling us to pursue growth options or capital expansions, pay down debt and/or increase returns to shareholders. New opportunities for 'green' supply.

Threats

Falling commodity prices or adverse exchange rate movements reduce cash flow, limiting profitability and shareholder returns. These may trigger impairments and/or impact our credit ratings. Extended subdued prices may reflect a longer-term fall in demand for our products, and the reduced earnings and cash flow streams resulting from this may limit investment and/or growth opportunities. Unfavourable changes in the cost of production can arise, such as increased fuel prices.

Trend



Potential impact

- Future financial performance
- Solvency
- Liquidity

10. Access to capital through economic cycles

Economic



External events and financial discipline may impact our ability to access capital and support our strategy.

Management response

We aim to manage the liquidity and financing structure of the Group using forecasts and sensitivity analysis tools to actively monitor, determine and enable access to the appropriate level, sources and types of financing required. This process is strengthened by:

- Ensuring compliance with our Treasury policy and standard, which outlines the fundamental principles that govern our financial risk management practices.
- Committing to prudent financial policies and financial discipline, including credit and liquidity metrics commensurate with a strong investment grade rating.
- Maintaining the liquidity and financing structure of the Group through regular forecast, sensitivity and stress testing tools to actively monitor, determine and enable access to the appropriate level, sources and types of funding required.
- Subjecting funds invested to credit limits, dynamic risk scoring, and maturity profile based on Board-approved frameworks to ensure appropriate liquidity and risk diversification.
- A disciplined capital allocation process supported by Evaluation and Investment Committee.
- Board approval of the financial strategy, long-term planning and cash flow forecasting.
- Applying a shareholder returns policy that allows shareholder returns to adjust with the cycle.

Opportunities

Favourable market conditions and strong financial discipline could increase our liquidity and/or balance sheet strength, allowing us to pursue investment or growth opportunities, pay down debt and/or enhance returns to shareholders.

Threats

Our ability to raise sufficient funds for capital investments during a major economic downturn.

Trend



Potential impact

- Future financial performance
- Solvency
- Liquidity
- Group reputation

11. Resources to reserves

Economic



Our estimates of ore resources and reserves may vary. The volume of material reported in Resource and Reserve is based on the geological, commercial and technical information available at the date of the report and is, by its nature, incomplete. As new information comes to light, the economic viability of some Ore Reserves and mine plans may be reassessed with material impacts (positive or negative).

Management response

We invest in developing our orebody knowledge to inform our company's organic growth pathways and projections of financial performance. This includes:

- Compliance with the Group's Resources and Reserves standard.
- Establishment of the Orebody Knowledge (OBK) Centre of Excellence.
- Development of operational KPIs to ensure inputs to Mineral Resource and Ore Reserve calculations remain valid. This includes spatial plan conformance and grade and tonnage reconciliation.
- Compliance with processes for optimal asset development and Resource and Reserve maintenance.

Opportunities

Through operational efficiencies, deployment of new technologies or increased orebody knowledge we can improve the discovery of new Resources, convert a greater proportion of Resource to Reserve, and extract them in a more economical way.

Threats

Inadequate knowledge of our Resources and Reserves increases production costs and ore loss within our production systems. Failure to capture the benefits of new technologies may reduce our volume of available Reserves.

Trend



Potential impact

- Future financial performance
- Valuation

12. Capital project delivery

Economic



Large capital investments require multi-year execution plans and are complex. Our ability to deliver projects to baseline plan – principally in terms of safety, cost and schedule – may vary due to changes in technical requirements (eg geotechnical), law and regulation, government or community expectations, or through commercial or economic assumptions proving inaccurate through the execution phase.

Management response

We develop large-scale capital projects through a specialised division. Our methodology includes:

- Implementation of the project management control framework and assurance activities to ensure compliance.
- Stakeholder engagement is managed by the product group that will have ownership of the project through to operation.
- Following a rigorous project approval and stage-gating process, including monitoring and status evaluation, as articulated in the project evaluation standard and guidance.
- Maintaining a strong focus on contractor management.
- Undertaking strategic workforce planning to ensure the critical roles are appropriately managed.

Opportunities

An ability to develop projects safely, on time and within budget enhances our cash flow, licence to operate and investor confidence. Effectively implementing optimisation programmes reduces cost and accelerates development schedules, resulting in higher returns earlier.

Threats

A delay or overrun in a project schedule and/or a significant safety or process safety incident could negatively impact our profitability, cash flow, ability to repay project-specific debt, asset carrying values, growth aspirations and relationships with key stakeholders. A failure to secure the required approvals (regulatory and from partners) may cause delays in project delivery with a corresponding increase in costs. In 2020, COVID-19 has affected the delivery of major projects due to restrictions on travel and supply chains, though some mitigation activities have reduced these impacts.

Trend



Potential impact

- Future financial and operational performance
- Health, safety, environment and security (HSE&S)
- Solvency
- Liquidity
- Group reputation

Principal Risks and Uncertainties

continued

13. Change in tax regulations

Economic



The international tax policy landscape is becoming increasingly contentious with discussion related to digital taxes raising threats of trade wars and providing the impetus to implement significant changes to the global tax framework.

Management response

Our approach to tax policies and governance seeks to keep pace with increasing community standards, increasing tax authority and government expectations, and civil society initiatives promoting responsible tax and transparency. We aim to achieve this by:

- Engaging constructively in local and international tax reform dialogue to contribute to the development of sustainable and effective tax systems.
- Maintaining our commitment to the B Team Responsible Tax Principles, which are intended to provide a leadership standard driving best practice in tax governance, reporting and interactions with tax authorities. These principles are embedded in our tax policy.
- Verifying our compliance to our tax policy through our Internal Audit, which sets the following expectations:
 - Full compliance with statutory obligations accompanied by full disclosure in our Annual Taxes Paid report.
 - High standards of tax risk management.
 - Transparent and constructive working relationships with tax administrators.
 - Proactive management of taxes pursuant to a robust tax governance framework.

Opportunities

We actively promote transparent and responsible tax practices and will further increase our transparency to adopt, in full, the new Global Reporting Initiative (GRI) tax transparency standard. This presents an opportunity to demonstrate our commitment to meeting regulatory and social obligations consistent with increasing community standards.

Threats

Tax revenues play an important role in assisting governments to provide essential services and provide an opportunity for companies to contribute to the communities in which they operate. Tax policy settings are a relevant factor in investment decisions, particularly for industries that require significant upfront investment. Changes to the global tax framework must provide appropriate outcomes in the allocation of taxing rights between countries and provide certainty for companies seeking to invest. The potential for policy design that does not consider the features relevant to capital intensive industries or the adoption of unilateral approaches risks uncertainty, complexity and double taxation, which may adversely impact future investment decisions.

Trend



Potential impact

- Financial
- Valuations
- Stakeholder relations

14. Safety incident or major hazard event

Operational
ESG



Our operations and projects are inherently hazardous, with the potential to cause illness or injury, damage to the environment, and disruption to communities. Major hazards include process safety, underground mining, surface mining and tailings and water storage.

Management response

Nothing is more important than the safety and wellbeing of our employees, contractors and communities. We believe all incidents are preventable, so we concentrate on identifying, understanding, managing and, where possible, removing the hazard or removing people from the hazardous area. Key initiatives include:

- Development of Centres of Excellence for key technical capability in major hazard and asset management.
- Implementation of slope geotechnical, tailings management, underground mining and process safety technical and safety standards and procedures.
- Business resilience planning and execution exercises for ‘severe but plausible’ scenarios.
- Oversight by the Sustainability Committee, supported by the Group’s Executive Risk Management Committee, as well as second and third line defence activities. The second line of defence is provided by our central support functions and technical Centre of Excellence (CoE) teams to verify compliance with Group policies, standards and procedures.
- Regular review and audit of HSE&S processes, training and controls to promote and improve effectiveness at managed and (where practicable) non-managed operations.
- Monitoring monthly HSE&S performance at the Group level and sharing learnings from HSE&S incident investigations.
- Building safety targets into personal performance metrics to incentivise safe behaviour and effective risk management (see Remuneration Report).
- Focus on fatality elimination through our critical risk management programme, which verifies safety risk controls are in place before work starts.

Opportunities

Meeting and exceeding our commitments in safety and hazard management.

Threats

Failure to manage our health, safety, environment or community risks could result in a catastrophic event or other long-term damage that could harm our financial performance and licence to operate.

Trend



Potential impact

- Multiple fatalities
- Operations disruption
- Communities and social performance
- Group reputation
- Financial loss

Principal Risks and Uncertainties

continued

15. Cyber breach

Operational



Cyber risk may disrupt our operations, affect how our employees work and/or breach data privacy and other sensitive information related to customers, contractors and suppliers. Cyber breaches can arrive from malicious external or internal attacks, but also inadvertently through human error.

Management response

We continue to invest in our information systems and technology (IS&T) infrastructure and teams not only to advance our automation projects but also to safeguard our assets. Measures include:

- Cyber controls including detection, identification, protection and recovery.
- Group standard and procedure with improved monitoring and compliance.
- Improved IS&T asset management with executive level sponsorship and oversight from our Cyber Security Steering Committee.
- New technology solutions implemented to improve cyber threat detection and response for critical assets.
- Third-party risk management through contractual inclusions and proactive compliance assessments.
- Business resilience plans for cyber breaches across all critical assets.

Threats

The growing volume and sophistication of cyber threats is increasing the likelihood of compromise, offset by significant improvements in the effectiveness of control measures.

Trend



Potential impact

- Operational disruption and/or breach of operational integrity
- Breach of data privacy or commercially sensitive data
- Group reputation
- Financial loss

16. Physical impacts from climate change

Operational
ESG

Our operating sites may be vulnerable to the physical impacts of climate change including extreme weather events, rising sea levels or extreme temperature impacts on operating environments.

Management response

We conduct climate change physical risk assessments to identify vulnerabilities across our portfolio including over the life of our assets in the way we design, operate and close them. Additionally we have:

- Introduced a new Energy and Climate Change Centre of Excellence that uses scenarios to assess medium- and long-term risks.
- Implemented a series of controls to manage the threat of extreme weather, including structural integrity programmes across all critical assets, emergency response plans and flood management plans. These controls keep our people safe and help our operations return to normal capacity as quickly as possible.
- Implemented a Critical Risk Assessment programme, including natural catastrophe modelling, to support our insurance programme.

Opportunities

By understanding specific exposures across our portfolio, we can build in measures as part of our capital programmes to reduce losses in the event of a natural disaster.

Threats

Climate change has the potential to significantly reduce rainfall in areas where we operate, which may lead to water shortages. Conversely, an extension of the tropical cyclone season in the Pilbara, Western Australia, would impact our iron ore operations. A significant warming trend, particularly influencing maximum temperatures, would also impact the way we operate.

Trend



Potential impact

- Multiple fatalities
- Operational disruptions
- Financial loss

17. Water scarcity and management

Operational
ESG

Water is a key part of our operational environmental footprint and a critical, shared resource for people, the environment and economic prosperity. In some regions where we work, water scarcity is an inherent risk, like the Gobi Desert in Mongolia. In others, rainfall can vary greatly from year to year, such as Weipa in Queensland, Australia. Many of our sites are also experiencing changes in rainfall and water availability due to climate change.

Management response

We aim to balance our operational water needs with those of local communities, Traditional Owners and ecosystems. We manage our water risks against four themes: water resource, quantity and quality, dewatering and long-term obligations. This framework allows us to identify, assess, manage and communicate water risk, controls and actions both internally and to the communities where we operate. Risk management measures include:

- Site water management plans and controls including monitoring data collection and interpretation.
- Improved methodology for calculating our water risk exposure; recalculation is underway.
- Identification global controls for the four water management risk areas: water resource, quantity and quality, dewatering, long-term water obligations.
- Actively supporting and reporting our practices against the commitments outlined in the International Council on Mining and Metal's position statement on water stewardship: to apply strong and transparent water governance, manage water at operations effectively, and to collaborate to achieve responsible and sustainable water use.

Opportunities

We improve the way we design and run our operations to avoid permanent impacts to water resources and carefully manage the quality and quantity of the water we use and return to the environment.

Threats

Our water management causes unacceptable operational, environmental or community impacts. Sources of this risk exposure are diverse across geographies and commodities, with both financial and non-financial implications without proactive management in new asset developments, operations and closures.

Trend



Potential impact

- Financial
- Valuations
- Production and growth constraints
- Group reputation
- Ecosystem impacts
- Stakeholder relationships

18. Natural disaster exposure

Operational
ESG

A natural disaster occurs with significant operational interruption or damage to our assets and/or communities.

Management response

We aim to prepare for and mitigate the impact of a natural disaster event by:

- Enhancing our communication plans and co-ordination with local, regional and state agencies.
- Increasing our understanding of our exposure at each asset through programmes such as our critical risk, asset integrity assurance, and climate change physical impact assessment programmes.
- Improving our business resilience plans and emergency response plans, training and annual exercises to prepare for a natural disaster event.

Opportunities

Improving the resilience of our operations to minimise impact to our communities, customers and supply chain.

Threats

This primarily includes major impacts to our Pilbara iron ore operations due to Category 5 cyclone storm surges hitting coastal operations and nearby communities, causing significant operational interruption or damage to mines, rail, port and/or other infrastructure. Non-financial impacts may include multiple fatalities or severe permanent impairment to multiple people. Other natural disasters that can affect our operations, depending on their location, include bush fire, drought, earthquakes and tsunamis. In 2020, our Kennecott copper operation in Utah, US, was impacted by an earthquake.

Trend



Potential impact

- Operational disruptions
- Fatalities
- Financial impacts

Principal Risks and Uncertainties

continued

19. Closure, reclamation and rehabilitation

Operational
ESG

Planning for the future of our sites after they cease operating is a core business function governed by our Closure Steering Committee. Estimated costs and liabilities are provided for, and updated annually, over the life of each operation. However, estimates may vary due to a number of factors that create either opportunities or challenges.

Management response

We have established a Closure Division to ensure we manage the future of our site after operations cease in a sustainable and cost-efficient manner. We aim to achieve this through:

- Compliance with Group policies and standards, which provide guidance concerning risk management, communities and social performance. This is overseen by our Sustainability Committee and Closure Steering Committee.
- Collaboration with key stakeholders and participation in strategic partnerships and/or governance structures to create opportunities and mitigate threats.
- Developing long-term relationships with a range of international and national stakeholders.
- Monitoring jurisdictional risks, including sovereign risks, and taking appropriate action.

Opportunities

We are actively assessing opportunities to find solutions to repurpose and reuse sites for future economic or social benefit through working collaboratively with our stakeholders. For all new asset developments, we incorporate closure into their design, and find ways to optimise decommissioning, remediation and any long-term management obligations. For existing operations, where possible, we progressively rehabilitate land throughout the life of the operations.

Threats

Plans and provisions for closure, reclamation and rehabilitation may vary over time due to changes in stakeholders' expectations, legislation, standards, technical understanding and techniques. In addition, the expected timing of expenditure could change significantly due to changes in the business environment and orebody knowledge, which might vary the life of an operation.

Trend



Potential impact

- Valuation
- Future financial and operational performance
- Group reputation

20. Civil unrest

Operational
ESG

Civil unrest may expose our employees and/or operations to significant threats or impact our key markets and customers, potentially resulting in compromised employee safety, and damage to or loss of assets.

Management response

The safety of our employees is our priority. Avoiding damage or loss of our assets is important to sustaining our business. We manage this through:

- Implementation of a new country entry procedure to increase risk awareness.
- Business resilience planning for operations and communities at risk.
- Communication plans and co-ordination with local, regional and state agencies.

Opportunities

Strong relationships with the communities in which we operate have the potential to provide stable operating environments.

Threats

Where there is potential for civil unrest, our access or operational continuity may be disrupted. Our African and South American operations and exploration sites have the most exposure to this risk.

Trend



Potential impact

- Group reputation
- Future financial and operational performance
- Health, safety and security

21. COVID-19

Operational
ESG

The potential for transmission across our teams, communities and supply chains continues to be a threat that requires proactive management to guard against business impacts.

Management response

The safety and our ability to operate with minimal disruption is vital to our success. Our business resilience teams across the Group have helped mitigate the impact of the pandemic through:

- Trigger, action and response plans.
- COVID-19 screening and testing protocols.
- Segregation measures to prevent transmission among vulnerable people and communities.
- Hygiene practices, PPE and industrial cleaning practices.
- Physical distancing.
- Health and wellbeing support.
- Contact tracing.

Opportunities

The introduction of stringent health measures to protect our employees, partners and host communities resulting in an improved reputation among communities and key partners.

Threats

COVID-19 transmission has the potential to compromise the health of employees, partners, communities and, in particular, vulnerable populations (eg elderly, First Nations, immuno-compromised people). A large-scale outbreak could lead to the complete shutdown of operations, affecting the flow of products to customers.

Trend



Potential impact

- Health, safety and security
- Future financial and operational performance
- Group reputation

Principal Risks and Uncertainties

continued

22. Breach of our policies, standards and procedures, laws or regulations		Operational ESG	P P P P
<p>This risk may greatly impact our reputation, licence to operate, and potentially exposes us financially. It is important that we foster a culture aligned with our values, provide education and guidance to employees, and implement proactive compliance monitoring.</p>	<p>Opportunities</p> <p>Good corporate citizens are acknowledged to operate to a high ethical standard, attracting talent and securing access to resources and investment opportunities.</p> <p>Threats</p> <p>Investigations by regulatory authorities and litigation (regardless of the ultimate finding) may have a serious impact on our reputation. Fines may be imposed for breaching laws and/or regulations or for other inappropriate business conduct, as well as resulting in a loss in share price value and/or assets or loss of business. Other consequences could include the criminal prosecution of individuals and/or Group companies, imprisonment, and reputational damage to the Group.</p>	<p>Trend</p> <p>▲</p> <p>Potential impact</p> <ul style="list-style-type: none">– Group reputation– Licence to operate– Future financial and operational performance	

Management response

- Our dedicated legal and compliance teams work closely with our businesses and help them to identify, understand and comply with current and emerging laws and regulations.
- We continue to train and create awareness on regulatory obligations for employees working in high-risk roles and third parties.
- We maintain ongoing assurance of compliance to our policies, standards and procedures and conduct an internal audit review of our third-party risk management framework.
- We have reorganised our structure to create a centralised Litigation Team and Centres of Excellence in the areas of Anti-Bribery and Corruption, Anti-Trust, and Export Controls & Sanctions.
- Aligned with living our corporate values, leaders and employees receive training in our values and behaviours.

Five-year Review

Selected financial data

The selected consolidated financial information below has been derived from the historical audited consolidated financial statements of the Rio Tinto Group. The selected consolidated financial data should be read in conjunction with, and qualified in their entirety by reference to, the 2020 financial statements and notes thereto. The financial statements as included on pages 200-300 ^{AR} have been prepared in accordance with IFRS as defined in note 1 ^{AR}.

Rio Tinto Group

Income statement data

For the years ending 31 December Amounts in accordance with IFRS	2020 US\$m	2019 US\$m	2018 US\$m	2017 US\$m	2016 US\$m
Consolidated sales revenue	44,611	43,165	40,522	40,030	33,781
Group operating profit ^(a)	16,829	11,466	17,687	14,135	6,795
Profit for the year	10,400	6,972	13,925	8,851	4,776
Basic earnings for the year per share (US cents)	604.0	491.4	793.2	490.4	256.9
Diluted earnings for the year per share (US cents)	599.8	487.8	787.6	486.9	255.3

Dividends per share

Dividends declared during the year					
US cents					
– interim	155.0	151.0	127.0	110.0	45.0
– interim special	–	61.0			
– final	309.0	231.0	180.0	180.0	125.0
– special	93.0		243.0		
UK pence					
– interim	119.74	123.32	96.82	83.13	33.80
– interim special	–	49.82			
– final	221.86	177.47	135.96	129.43	100.56
– special	66.77		183.55		
Australian cents					
– interim	216.47	219.08			
– interim special	–	88.50	170.84	137.7	59.13
– final	397.48	349.74	250.89	228.5	163.62
– special	119.63		338.70		
Dividends paid during the year (US cents)					
– ordinary	386	635.0	307.0	235	152.5
Weighted average number of shares basic (millions)	1,617.4	1,630.1	1,719.3	1,786.7	1,797.3
Weighted average number of shares diluted (millions)	1,628.6	1,642.1	1,731.7	1,799.5	1,808.6

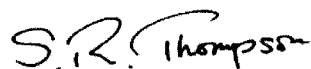
Balance sheet data

Total assets	97,390	87,802	90,949	95,726	89,263
Share capital/premium	8,302	7,968	8,000	8,666	8,443
Total equity/Net assets	51,903	45,242	49,823	51,115	45,730
Equity attributable to owners of Rio Tinto	47,054	40,532	43,686	44,711	39,290

(a) Group operating profit or loss includes the effects of charges and reversals resulting from impairments (other than impairments of equity accounted units) and profit and loss on disposals of interests in businesses. Group operating profit or loss amounts shown above excludes equity accounted operations, finance items, tax and discontinued operations.

Directors' approval statement

This Strategic Report is delivered in accordance with a resolution of the Board, and has been signed on behalf of the Board by:



Simon Thompson
Chairman

22 February 2021

Independent Limited Assurance Report

of KPMG (KPMG Australia) to the Directors of Rio Tinto plc and Rio Tinto Limited

CONCLUSION

Based on the evidence we obtained from the procedures performed, we are not aware of any material misstatements in the Information Subject to Assurance presented in the Sustainability sections of the Rio Tinto Annual Report 2020 and the Rio Tinto Sustainability Fact Book 2020 for the year ended 31 December 2020, which has been prepared by Rio Tinto plc and Rio Tinto Limited (together Rio Tinto) in accordance with the Reporting Criteria.

Information Subject to Assurance

The Information Subject to Assurance is summarised below:

- Rio Tinto's assertion that it has incorporated the requirements of the International Council on Mining and Metals (ICMM) 10 Principles for sustainable development, and the mandatory requirements set out in the ICMM Position Statements, into its own policies, strategies and standards.
- Rio Tinto's assertions regarding the approach that it has adopted to identify and prioritise its material sustainable development risks and opportunities set out in the Sustainability sections of the Rio Tinto Annual Report 2020.
- Rio Tinto's assertions regarding the existence and status of implementation of systems and approaches used to manage the following selected sustainable development risk areas:
 - Safety
 - Business Integrity
 - Health
 - Greenhouse gas emissions and energy use
- The following Rio Tinto performance data related to the selected sustainable development risk areas:

- Fatalities at managed operations	- Number of business integrity cases
- All-injury frequency rate	- Total managed greenhouse gas emissions (Scope 1 & 2)
- Lost time injury frequency rate	- Greenhouse gas emissions intensity index
- Number of lost time injuries	- Total managed energy
- New cases of occupational illness	- Tier 1 Water Target performance
- Community investment (discretionary)	

Our assurance does not extend to information in respect of earlier periods or to any other information included in the Sustainability sections of the Rio Tinto Annual Report 2020 and the Rio Tinto Sustainability Fact Book 2020 for the year ended 31 December 2020.

Reporting Criteria

The Reporting Criteria used for the reporting of the Information Subject to Assurance are the ICMM Sustainable Development Framework: ICMM Principles (Revised 2015) and the definitions and approaches within the basis of reporting glossary presented on Rio Tinto's website at www.riotinto.com.

Basis for Conclusion

We conducted our work in accordance with International Standard on Assurance Engagements ISAE 3000 (Revised) Assurance Engagements other than Audits and Reviews of Historical Financial Information and in respect of greenhouse gas emissions, International Standard on Assurance Engagements ISAE 3410 Assurance Engagements on Greenhouse Gas Statements issued by the International Auditing and Assurance Standards Board (Standards). In accordance with the Standards we have:

- used our professional judgment to plan and perform the engagement to obtain limited assurance that we are not aware of any material misstatements in the Information Subject to Assurance, whether due to fraud or error;
- considered relevant internal controls when designing our assurance procedures, however we do not express a conclusion on their effectiveness; and
- ensured that the engagement team possess the appropriate knowledge, skills and professional competencies.

Independent Limited Assurance Report

of KPMG (KPMG Australia) to the Directors of Rio Tinto plc and Rio Tinto Limited

Summary of Procedures Performed

- Our limited assurance conclusion is based on the evidence obtained from performing the following procedures:
- enquiries with relevant Rio Tinto personnel to understand and evaluate the design and implementation of the key systems, processes and internal controls relevant to the Information Subject to Assurance;
- analytical procedures over the Information Subject to Assurance;
- risk analysis to validate the completeness of Rio Tinto's materiality assessment;
- substantively tested performance data within the Information Subject to Assurance, on a sample basis at a corporate and operational level, which included testing a selection of six operations such as Kennecott Copper, Yarwun Refinery, Brockman Region, Richards Bay Minerals, QIT Madagascar Minerals and the Gudai-Darri Project;
- evaluated the design and effectiveness of controls implemented by the Rio Tinto Health, Safety and Environment (HSE) Services reporting function over the Information Subject to Assurance;
- assessed Rio Tinto's incorporation of the requirements of the ICMM 10 Principles for sustainable development, and the mandatory requirements set out in the ICMM Position Statements, into its own policies, strategies and standards; and
- reviewed the Rio Tinto Annual Report 2020 and Rio Tinto Sustainability Fact Book 2020 in its entirety to ensure they are consistent with our overall knowledge of Rio Tinto.

How the Standard Defines Limited Assurance and Material Misstatement

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Misstatements, including omissions, are considered material if, individually or in the aggregate, they could reasonably be expected to influence relevant decisions of the Directors of Rio Tinto.

Use of this Assurance Report

This report has been prepared for the Directors of Rio Tinto for the purpose of providing an assurance conclusion on the Information Subject to Assurance and may not be suitable for another purpose. We disclaim any assumption of responsibility for any reliance on this report, to any person other than the Directors of Rio Tinto, or for any other purpose than that for which it was prepared.

Management's responsibility

Management are responsible for:

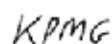
- determining that the Reporting Criteria is appropriate to meet their needs;
- preparing and presenting the Information Subject to Assurance in accordance with the Reporting Criteria; and
- establishing internal controls that enable the preparation and presentation of the Information Subject to Assurance that is free from material misstatement, whether due to fraud or error.

Our Responsibility

Our responsibility is to perform a limited assurance engagement in relation to the Information Subject to Assurance for 31 December 2020, and to issue an assurance report that includes our conclusion.

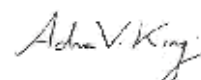
Our Independence and Quality Control

We have complied with our independence and other relevant ethical requirements of the Code of Ethics for Professional Accountants (including Independence Standards) issued by the IFAC Ethical Standards Board, and complied with the applicable requirements of International Standard on Quality Control 1 to maintain a comprehensive system of quality control.



KPMG


22 February 2021



Adrian King

Partner
Melbourne, Australia

Annual Statement by the Remuneration Committee Chairman



The Committee's overarching purpose is to ensure the remuneration structure and policies reward fairly and responsibly.

In accordance with the triennial policy cycle, we will be submitting our Remuneration Policy (the new Policy) to shareholders for their approval at our 2021 AGMs.

Changes to our Remuneration Policy (the current Policy) are summarised at the end of this statement on page 144 [↗](#). The full Remuneration Policy can be found on pages 152-158 [↗](#).

On behalf of the Board, I am pleased to introduce our 2020 directors' Remuneration Report.

I would like to begin by acknowledging the challenging year we have faced. We deeply regret the events at Juukan Gorge and have unreservedly apologised to the Puutu Kunti Kurrama and Pinikura (PKKP) people. The destruction of the rock shelters should not have happened, and we are absolutely committed to listening, learning and changing.

We have also dealt with the impacts of the COVID-19 pandemic. In the face of these unprecedented challenges, I am proud of how our employees responded and remained focused on delivering strong operational performance, and above all, keeping each other safe.

One of the key focus areas for the Committee during 2020 has been a detailed review of our Remuneration Policy ahead of it being submitted for shareholder approval at our 2021 AGMs. At this stage we are not proposing significant change, as the Committee believes the current Policy has served our stakeholders well, a view supported throughout my shareholder consultations over the last 12 months. The Committee's overarching purpose remains ensuring our remuneration structure and policies reward fairly and responsibly with a clear link to corporate and individual performance, aligning our remuneration outcomes with the delivery of long-term value.

Remuneration Committee members



Sam Laidlaw (Chairman)
Megan Clark
Simon McKeon

Jennifer Nason
Simon Thompson
Ngairé Woods

Juukan Gorge

This year was one of the most challenging in Rio Tinto's history. The destruction of the Juukan Gorge rock shelters on the land of the PKKP people in Australia should not have happened and it does not reflect our values as a company.

Following the events that occurred at the Juukan Gorge, the Board conducted a review of our cultural heritage management processes, procedures, reporting and governance. The Board's Review published on 24 August 2020 concluded that no single act of commission was responsible for the tragic events that occurred, rather it was the result of a series of systemic failures in the heritage management system over a considerable number of years. The Board concluded that the Chief Executive, Chief Executive Iron Ore and Group Executive Corporate Relations were however ultimately responsible for implementing fit for purpose management systems and would not therefore receive any 2020 short-term bonus. In addition, for the Chief Executive, a further reduction of £1 million would be applied to the vesting of his 2016 long term incentive plan (LTIP) award.

Following the publication of the Board Review on 24 August 2020, the Board engaged extensively with shareholders, Traditional Owners, Indigenous Leaders and other stakeholders. Despite general support for the changes recommended in the Board Review, it became clear that a number of stakeholders felt that the proposed financial penalties, per se, were insufficient and that to rebuild relationships with the Traditional Owners and other Australian stakeholders, changes of leadership were required to move the company forward. At the conclusion of this intense period of engagement, the Board unanimously concluded that the positions of the three executives had become untenable and initiated discussions to agree mutual separation terms, with executives treated as eligible leavers under the terms of their employment contracts and the LTIP plan rules.

In making the eligible leaver determination the Board fully recognised the gravity of the destruction at Juukan Gorge but was mindful that the three executives did not deliberately cause the events to happen, they did not do anything unlawful, nor did they engage in fraudulent or dishonest behaviour or wilfully neglect their duties. Without diminishing the significance of what occurred it was necessary to balance the findings of the Board Review, the malus adjustments that had been applied and the loss of employment for the three individuals, against the considerable achievements of those executives over many years, in making the final determination on their separation terms. In this context, the loss of employment was considered the greater sanction.

The full details of the separation terms for each executive which are in accordance with the Policy and their contractual terms are included on pages 169 and 174 [AR](#).

Remuneration Policy

We undertook a thorough review of our current Policy in 2020 as part of which we revisited the merits of restricted stock. We remain of the view that for a long-term cyclical business such as ours restricted stock has some logic. However it was very clear from our discussions with shareholders across different geographies that a significant proportion still prefer a performance tested long-term programme. We are therefore not proposing significant changes to the structure of the current Policy at this time.

Overall, the current Policy has served us well but the Committee felt there was scope for simplification and opportunity to align certain aspects more closely to shareholder and broader stakeholder expectations. Key aspects reviewed in detail included the overall quantum and the individual components of the remuneration package in terms of market positioning, the pay mix, executive pensions in the context of the provisions applicable to the broader workforce, and the performance metrics underpinning the short term incentive plan (STIP) and LTIP. As a result, we are proposing some changes which are outlined on pages 144-145 [AR](#) which includes an extension of our malus and clawback provisions to cover events that have a material impact on our social licence to operate.

On appointment as Chief Executive, Jakob Stausholm's pension benefit has been set at 14% of salary, which is in line with our new Policy to provide retirement benefits consistent with other employees in the Group. Previously, the maximum pension contribution for new appointments was 25% of salary. The weighted average contribution rate for UK and Australian based employees is around 14%. All members of the Executive Committee will be aligned to this level from 2021, except for the Chief Operating Officer who will retain the previous contribution level until his retirement in 2022. The target STIP of the Chief Executive is also being reduced from 120% of base salary to 100% of base salary with the removal of the previous 1.2 multiplier.

A key change proposed to our current Policy is to allocate half of the individual component of STIP (15%) to specific Environmental, Social and Governance (ESG) metrics. These will represent a bundle of targets related to our climate change initiatives comprising annual milestones towards the achievement of our 2030 targets, diversity and inclusion to reflect the communities in which we operate, and governance of our cultural heritage management and other risk-related areas. This proposed change was widely supported in our shareholder consultations this year. It was also clear from the feedback that shareholders want to see meaningful, transparent, quantifiable targets which tie to the broader strategy across the ESG dimensions whilst recognising that there are no easy solutions that readily tick all these boxes. Whilst the Committee is fully committed to setting ESG targets that meet most, if not all, of the above criteria, this will be an aspect that we expect to evolve over time. Our 2021 approach to ESG is set out on page 145 [AR](#).

While our policy review has confirmed the appropriateness of our current approach, we will continue to monitor the executive pay debate, as our shareholders would expect. We remain keen to explore any alternate arrangements that simplify remuneration, drive a balanced focus on the short and long-term, align outcomes with Group performance, drive the right behaviours, limit the potential for excessive outcomes, and deliver our objective to attract, retain and appropriately reward talented executives and will continue to engage with shareholders on this subject.

Chief Executive succession

The Committee's work this year was also focused on the remuneration implications of our Chief Executive's succession. Jakob Stausholm was appointed Chief Executive effective 1 January 2021. The terms of his appointment announced in December 2020 reflected the rules of our incentive arrangements and the new Policy that is being put to shareholders at the 2021 AGMs. Fixed pay on appointment was set at £1.311 million per annum, inclusive of base salary of £1.15 million per annum and a pension contribution of 14% base salary. This level of fixed pay will be a reduction of more than 10% from Jean- Sébastien Jacques' fixed pay of £1.467 million per annum. Further information in respect of Jakob Stausholm's remuneration is provided on page 169 [AR](#).

New executive appointments

The executives appointed into new roles on the Executive Committee set out on pages 118-119 [AR](#) have all been appointed on terms aligned with the new Policy set out in this Report.

COVID-19

Like all organisations, Rio Tinto was faced with navigating the COVID-19 pandemic. We could not have foreseen the challenges that would arise in 2020, but we continued to perform well and deliver to plan. Our executive team managed a rapid and effective response to COVID-19, without needing to furlough any employees without pay, seeking any government assistance, or cancelling dividends. We were fortunate to remain operating as an essential industry and continued to make a valuable contribution to the communities and economies in which we operate.

Thanks to the collective hard work of the entire organisation, we remained focused on our core priorities – the health and safety of our people and communities, the safe running of our operations to serve our customers, the focus on keeping our business and profits strong, maintaining positive partnerships with communities and governments, and above all, staying resilient.

Annual Statement by the Remuneration Committee Chairman

continued

During 2020 we have seen outstanding examples of collaboration, speed and agility as our employees came together to tackle the complex issues of COVID-19 and overcome these hurdles to keep our operations running safely. We now look to the future to use the challenges presented by COVID-19 as an opportunity to strengthen our company and our position in the market even further.

2020 remuneration outcomes in the context of broader business performance

Short term incentive plan

Financial performance

In our At a glance section on page 146 ^{AR} and on page 163 ^{AR}, we retrospectively disclose the financial STIP targets set by the Board for 2020.

To remind you, in considering financial performance against the annual plan, we measure half against the original plan; the other half is “flexed” to exclude the impact of fluctuations in exchange rates, and quoted metal and other prices during the year, which are outside management’s control. We have used this approach consistently since 2005 for measuring our earnings performance, and have flexed the cash flow outcomes since the introduction of this measure in the STIP in 2009. When commodity prices rise, or there are favourable exchange rate variations, we protect shareholders by ensuring that 50% of the STIP opportunity (as relates to financial performance) is denied the benefit of that rise. When the reverse happens, and commodity prices fall or there are negative exchange rate variations, that STIP opportunity is safeguarded (as to 50%) against the fall. Our view is that this approach maintains appropriate incentive for executives, even in times of significant market volatility.

Notwithstanding the unprecedented challenges posed by the pandemic, the Group’s overall financial performance was very strong, substantially aided by a favourable pricing environment for key commodities. On a flexed basis, earnings were just below and cash flow results were above target, while on an unflexed basis both earnings and cash flow results exceeded the outstanding range. Together, the outcomes resulted in an unadjusted Group performance against the financial targets of 77% of maximum. As in prior years the Committee considered whether any adjustments were warranted to ensure the outcome was a fair reflection of underlying performance. The Committee noted the COVID-19 related expenditure incurred in ensuring our operations continued to run safely which reduced the Group result by 2% but determined not to make any related adjustments or any other adjustments, recognising the impact of the pandemic on business and society globally.

Safety performance

In 2020 Rio Tinto achieved its second successive fatality free year. This achievement has been accomplished through leadership commitment to safety, implementation of critical risk management across our operations, increased sharing and analysis of incidents that have the potential to result in a fatality, and the continued implementation of the safety maturity model with its focus on leadership and coaching. Overall, the combined performance against our safety measures meant that the Group’s STIP safety result was above target at 74% of maximum and the STIP safety results for all executives were above target.

2020 STIP awards

The 2020 STIP award for Jakob Stausholm is 71.3% of maximum. This includes a personal performance score of 60%, which balances strong leadership and contribution during the year with the events that occurred in 2020. As a result of the malus adjustment, Jean-Sébastien Jacques will not receive a 2020 STIP award.

Long term incentive plan

The estimated vesting for the 2016 award, combining the two TSR and EBIT margin portions, is 66.7% of maximum. In the context of the Group’s overall performance during the five-year performance period and the shareholder experience over that timeframe, the Committee concluded that the vesting of awards was justified. Given Rio Tinto’s strong share price performance since the grant of this award, 47% of the estimated vesting value relates to share price appreciation.

The portion of the award relating to TSR vested on 18 February 2021. The Committee will make a final determination of the relative improvement in the EBIT margin measure when the final EBIT margin performance of the comparator group companies becomes available in May 2021. If applicable, this portion of the award will vest on 31 May 2021.

Notwithstanding the substantial malus adjustment applied to Jean-Sébastien Jacques which includes a £1 million reduction to his 2016 LTIP vesting, his 2020 single total figure of remuneration is higher than 2019. This is due to the significant share price appreciation since grant of the 2016 LTIP and it being the first award he received in his capacity as Chief Executive. No LTIP award is due to vest for Jakob Stausholm who received his first award in 2018.

Pay in the broader context

Each year, the Board looks forward to engaging with our employees all over the world. Over the last several years, the Board has held events with employees across each of our major geographies, complemented by smaller town halls in more remote operating locations to ensure there remains widespread engagement. Much has changed over the past year, but as we respect travel restrictions, physical distancing and other safety measures, the Board’s enthusiasm to engage with employees remains as strong as ever. The COVID-19 pandemic has challenged all of us to think and do things differently. The Board has adapted its style of engagement to virtual discussions across a broad range of topics including pay. The Committee remains cognisant of executive pay in the broader context of a post COVID-19 world, ensuring the new Policy reflects the desired attributes of fairness, transparency, simplicity, proportionality, and alignment to broader organisational culture.

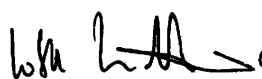
The CEO pay ratio of 81:1 is primarily driven by the LTIP vesting which ties closely to the shareholder experience over the relevant period which saw TSR increase by 210%.

Fairness and genuine care for the health and wellbeing of employees are key pillars of our approach to reward and benefits across the Group. These have underpinned the Group-wide response to the pandemic and continue to guide us. Pages 148-149 ^{AR} provide more insight into our approach to reward applicable to the broader employee population.

Our focus on pay equity is evident in our gender pay metrics on which we continue to make progress. Pay equity is a key pillar of our annual remuneration approach. The gender diversity in senior management roles also remains a key aspect of our broad agenda on diversity and inclusion. Further details of both equal pay and the gender pay gap, together with a wider discussion on diversity and inclusion, are provided in the Sustainability Report on pages 75-76.

As always, I welcome shareholder feedback and comments on the 2020 Remuneration Report.

Yours sincerely



Sam Laidlaw

Remuneration Committee Chairman

22 February 2021

Summary Remuneration Report

■ Base salary
■ STIP
■ LTIP

Single total figure of remuneration (£'000)

Executive director (£'000)	Year					Bonus – STIP payment		Value of LTIP awards vesting		Other	Total variable	Single total figure	% change
		Base salary	Benefits	Pension	Total fixed	Cash	Deferred shares	Face value	Share price appreciation				
Jean-Sébastien Jacques (Chief Executive) ⁽¹⁾	2020	1,158	51	287	1,496	–	–	3,590	3,138	(1,000)	5,728	7,224	20.4%
	2019	1,133	71	280	1,484	850	851	2,257	557		4,515	5,999	
Jakob Stausholm (Chief Financial Officer)	2020	789	83	174	1,046	564	565	–	–		1,129	2,175	15.6%
	2019	775	62	172	1,009	436	437	–	–		873	1,882	

1. Malus adjustment applied against 100% of the 2020 STIP and £1 million of the 2016 LTIP vesting.

Table 1b – Non-executive directors' remuneration

Stated in US\$'000 ^(a)		Fees and allowances ^(b)	Non-monetary benefits ^(c)	Post-employment benefits	Single total figure of remuneration ^(d)	Currency of actual payment
Chairman						
Simon Thompson	2020	937	2	–	939	£
	2019	932	2	–	934	£
Non-executive directors						
Megan Clark	2020	210	10	20	240	A\$
	2019	240	21	23	284	A\$
David Constable	2020	196	5	–	201	£
	2019	252	23	–	275	£
Hinda Gharbi ^(e)	2020	157	5	–	162	£
Simon Henry	2020	209	5	–	214	£
	2019	241	4	–	245	£
Sam Laidlaw	2020	260	4	–	264	£
	2019	270	3	–	273	£
Michael L'Estrange	2020	208	4	15	227	A\$
	2019	172	13	16	201	A\$
Simon McKeon	2020	233	5	1	239	A\$
	2019	228	14	22	264	A\$
Jennifer Nason ^(e)	2020	152	1	–	153	£
Ngaire Woods ^(f)	2020	60	–	–	60	£

(a) The remuneration is reported in US\$. The amounts have been converted using the relevant 2020 average exchange rates of £1 = US\$1.28379 and A\$1 = US\$0.69082 (1 January to 31 December 2020 average).

(b) "Fees and allowances" comprises the total fees for the Chairman and all non-executive directors, and travel allowances for the non-executive directors (other than the Chairman). The payment of statutory minimum superannuation contributions for Australian non-executive directors is required by Australian superannuation law. These contributions are included in the "Fees and allowances" amount disclosed for Australian non-executive directors.

(c) "Non-monetary benefits" include, as in previous years, amounts which are deemed by the UK tax authorities to be benefits in kind relating largely to the costs of non-executive directors' expenses in attending Board meetings held at the company's UK registered office (including associated hotel and subsistence expenses) and professional tax compliance services/advice. Given these expenses are incurred by directors in the fulfilment of their duties, the company pays the tax on them.

(d) Represents disclosure of the single total figure of remuneration under Schedule 8 of the Large- and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 (as amended) and total remuneration under the Australian Corporations Act 2001 and applicable accounting standards.

(e) The amounts reported for Hinda Gharbi and Jennifer Nason reflect the period of active Board membership from 1 March 2020 to 31 December 2020.

(f) The amounts reported for Ngaire Woods reflect the period of active Board membership from 1 September 2020 to 31 December 2020.

Further details in relation to aggregate compensation for executives, including directors, are included in note 37 ^{AR} (Directors' and key management remuneration).

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Please contact the ADR administrator if
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Shareholder Information

Financial calendar

2021		
19	January	Fourth quarter 2020 operations review
17	February	Announcement of results for 2020
4	March	Rio Tinto plc and Rio Tinto Limited ordinary shares and Rio Tinto plc ADRs quoted "ex-dividend" for the 2020 final dividend
5	March	Record date for the 2020 final dividend for Rio Tinto plc and Rio Tinto Limited ordinary shares and Rio Tinto plc ADRs
23	March	Final date for elections under the Rio Tinto plc and Rio Tinto Limited dividend reinvestment plans and under facilities for dividends to be paid in alternative currency for the 2020 final dividend
8	April	Dividend currency conversion date (Rio Tinto plc holders electing to receive Australian dollars and Rio Tinto Limited holders electing to receive pounds sterling)
9	April	Annual general meeting for Rio Tinto plc, UK
15	April	Payment date for the 2020 final dividend to holders of ordinary shares and ADRs
20	April	First quarter 2021 operations review
6	May	Annual general meeting for Rio Tinto Limited, Australia
16	July	Second quarter operations review 2021
28	July	Announcement of half-year results for 2021
12	August	Rio Tinto plc and Rio Tinto Limited ordinary shares and Rio Tinto plc ADRs quoted "ex-dividend" for the 2021 interim dividend
13	August	Record date for the 2021 interim dividend for Rio Tinto plc and Rio Tinto Limited ordinary shares and Rio Tinto plc ADRs
2	September	Final date for elections under the Rio Tinto plc and Rio Tinto Limited dividend reinvestment plans and under facilities for dividends to be paid in alternative currency for the 2021 interim dividend
16	September	Dividend currency conversion date (Rio Tinto plc holders electing to receive Australian dollars and Rio Tinto Limited holders electing to receive pounds sterling)
23	September	Payment date for the 2021 interim dividend to holders of ordinary shares and ADRs
15	October	Third quarter 2021 operations review

Shareholder Information continued

Forward-looking statements

This report includes “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts included in this report, including, without limitation, those regarding Rio Tinto’s financial position, business strategy, plans and objectives of management for future operations (including development plans and objectives relating to Rio Tinto’s products, production forecasts and reserve and resource positions), are forward-looking statements. 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.

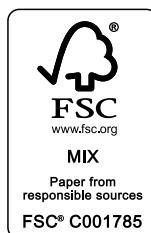
Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Rio Tinto, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such forward-looking statements are based on numerous assumptions regarding Rio Tinto’s present and future business strategies and the environment in which Rio Tinto will operate in the future. Among the important factors that could cause Rio Tinto’s actual results, performance or achievements to differ materially from those in the forward-looking statements include, but are not limited to: an inability to live up to Rio Tinto’s values and any resultant damage to its reputation; the impacts of geopolitics on trade and investment; the impacts of climate change and the transition to a low-carbon future; an inability to successfully execute and/or realise value from acquisitions and divestments; the level of new ore resources, including the results of exploration programmes and/or acquisitions; disruption to strategic partnerships that play a material role in delivering growth, production, cash or market positioning; damage to Rio Tinto’s relationships with communities and governments; an inability to attract and retain requisite skilled people; declines in commodity prices and adverse exchange rate movements; an inability to raise sufficient funds for capital investment;

inadequate estimates of ore resources and reserves; delays or overruns of large and complex projects; changes in tax regulation; safety incidents or major hazard events; cyber breaches; physical impacts from climate change; the impacts of water scarcity; natural disasters; an inability to successfully manage the closure, reclamation and rehabilitation of sites; the impacts of civil unrest; the impacts of the COVID-19 pandemic; breaches of Rio Tinto’s policies, standard and procedures, laws or regulations; trade tensions between the world’s major economies; increasing societal and investor expectations, in particular with regard to environmental, social and governance considerations; the impacts of technological advancements; and such other risks identified in Rio Tinto’s most recent Annual Report and accounts in Australia and the United Kingdom and the most recent Annual Report on Form 20-F filed with the United States Securities and Exchange Commission (the “SEC”) or Form 6-Ks furnished to, or filed with, the SEC. Forward-looking statements should, therefore, be construed in light of such risk factors and undue reliance should not be placed on forward-looking statements. These forward-looking statements speak only as of the date of this report. Rio Tinto expressly disclaims any obligation or undertaking (except as required by applicable law, the UK Listing Rules, the Disclosure Guidance and Transparency Rules of the Financial Conduct Authority and the Listing Rules of the Australian Securities Exchange) to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in Rio Tinto’s expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

Nothing in this report should be interpreted to mean that future earnings per share of Rio Tinto plc or Rio Tinto Limited will necessarily match or exceed its historical published earnings per share.



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