Introduction to this sustainability appendix

Each year we review our approach to sustainability reporting to make sure we continue to meet all regulatory requirements and are focusing on the topics that matter most to our business and stakeholders.

In 2019, we also looked at the way we report and began to use new approaches and methods to communicate our sustainability performance.

This **sustainability appendix** contains our 2019 performance data, our Global Reporting Initiative (GRI) index, materiality assessment, reporting glossary and information about our stakeholders and external benchmarking.

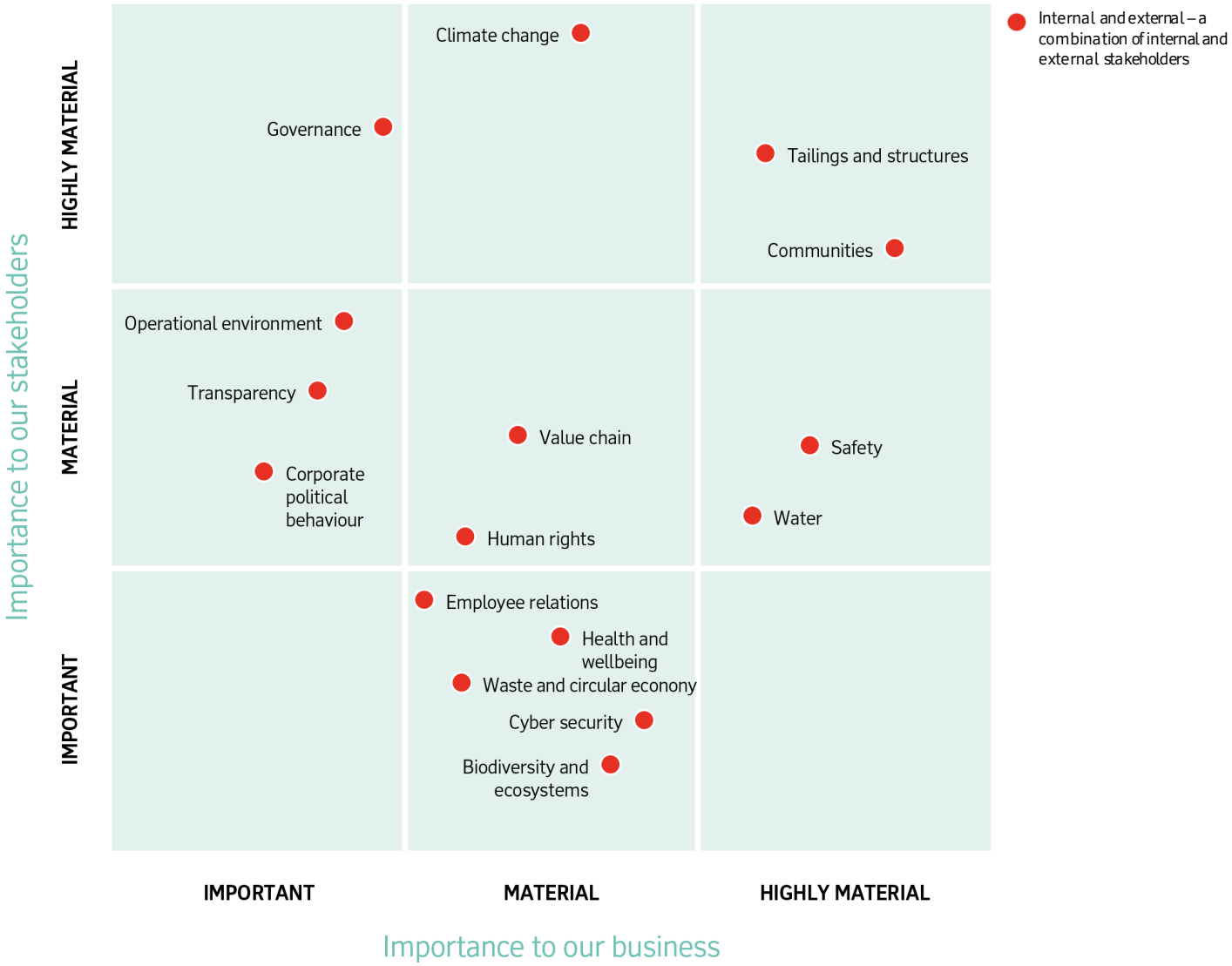
Our **website** is where you can find our approach to sustainability in its fullest form: our strategy, approach to key themes, performance against targets (including interactive charts) and downloadable data, policies and standards.

In our **2019 Annual Report**, we reported on our strategy and performance in the year with a particular focus on the areas we know are of most interest to our stakeholders.

Reporting what matters

As a member of the International Council on Mining and Metals (ICMM), we commit to upholding the ICMM's 10 Principles for Sustainable Development. We must also incorporate the requirements in ICMM position statements into our own policies and report against the Global Reporting Initiative (GRI) standards. As expected by the standards, we updated our sustainability materiality in 2019. The materiality assessment identifies what matters to the business and to our stakeholders, and was conducted through structured meetings, surveys and interviews of a broad range of stakeholders around the world. These included investors, customers, communities, civil society organisations, governments and Rio Tinto experts and leaders.

The boundaries of each material topic are shown in this graph, and our GRI index lists our disclosures. We assess GRI-defined economic, environmental and social impacts across our business lifecycle and align these to our sustainability framework.



Biodiversity and ecosystems: Mining disturbs land, waters and potentially the livelihoods of neighbouring communities. We work to retain the biodiversity value of sensitive areas and contribute to regional biodiversity research and conservation efforts.

Climate change: We recognise both the challenge and opportunity of the transition to a low carbon economy. We want to be part of the solution. We measure our carbon footprint and seek to report following international guidelines.

Communities: Developing strong and lasting relationships is paramount to our approach. This includes agreements, regional development and managing cultural and heritage impacts.

Corporate political behaviour: We engage on public policy and legislative issues affecting our business. As a company, we do not favour any political party, group or individual, or involve ourselves in party political matters.

Cyber security: The need for an approach to strong cyber security practices progresses alongside the increasingly important role technology plays in our business.

Employee relations: Strong employee engagement and people capability is core to our ability to deliver our strategy and drive our sustainability performance. Maintaining a safe, engaged, diverse and inclusive workforce is essential to maximising the value of our contributions to stakeholders. It's also core to our values.

Ethics and integrity: We have a Group-wide business and ethics framework and strong accountability processes to ensure our global business practices are in line with regulatory requirements across the jurisdictions we operate in and with our values, as expressed in our policies and standards.

Corporate governance: Good governance is fundamentally about considering the right things, the right time with the rights people and insights. We have strong foundations and rules for the Board to support and challenge the executive team on the alignment of sustainability to our business strategy.

Health and wellbeing: A healthy and engaged workforce contributes to productivity and is essential to maximising the value of our contributions. We focus on reducing exposures and industrial diseases, and on improving wellbeing.

Human rights: We work to respect the human rights of all people along our value chain. There is growing interest in the rigour of our systems, our due diligence and performance in our own business and our supply chain.

Operational environment: Preventing and minimising impacts from our operations on their surrounding environments and communities is essential to our licence to operate. Our management controls and programmes must help manage inherent risks.

Safety: Safety is core to how we run our business and care for our employees, contractors and communities. It is our number one value. Its importance is fundamental and non-negotiable.

Tailings and structures: The mining and metals industry produces large volumes of tailings (mining residues) that need to be permanently and safely stored. We need to be transparent about the controls we have in place and our performance in managing them.

Transparency: Greater disclosure of information leads to greater accountability; both are key to building trust and achieving better social and economic outcomes over the long term.

Value chain: Our business performance depends on our supply chain and the responsible, innovative and reliable supply of products to our customers. Interest in and expectations of our value chain are increasing.

Waste and circular economy: We generate mineral waste – waste rock, tailings and slag - and non-mineral waste – auxiliary materials that support our mining and mineral processing operations. The handling and storage of both types of waste can directly impact the land.

Water: Water is a valuable global resource and is crucial to our operations and communities alike.

Our stakeholders

We aim to generate superior returns for our shareholders and we work hard to understand our stakeholders' needs and expectations. We aim to be as profitable as we can be so we can invest to grow our business and meet our obligations to employees, customers, suppliers, local communities and host governments.

Stakeholder	Areas of interest	Mode of engagement	Frequency
Employees	– A safe and healthy work environment – Inclusion and diversity – Wages, benefits and recognition – Workplace conditions and agreements – Career development – Strategic direction of the business – Governance and business integrity practices – Environmental practices and standards	– The way we work, policies and standards – Collective bargaining/contract negotiations – Conversations between leaders, managers and employees – Ongoing performance feedback process, employee engagement surveys – Employee communication channels (Rio Tinto Yammer, intranet), employee AGMs, town hall meetings – Rio Tinto College training and development programmes – Company-wide community of practice calls	Daily, weekly, monthly, quarterly, half annually and annually; based on the mode of engagement
Host communities	– Agreements, Indigenous peoples' rights, land access, cultural heritage – Employment and procurement opportunities – Community investment and infrastructure – Transparent distribution of direct and indirect contributions – Environmental impacts – Access to water	– The way we work, policies and standards, publications, communities and social performance guidance – Community forums, committees, meetings, personal communications – Participation in social and environmental assessments, socio-economic programmes, site visits, surveys – Partner-to-operate investments – Negotiated agreements – Complaints and grievance mechanisms, whistleblowing programme	Programme-based and regular
Governments and regulators	– Taxes and royalties – Employment and procurement – Contribution to national and regional development priorities – Government regulations, permits, licences and agreements – Regulatory and legal compliance – Legislation and policy development – Closure	– Yearly, half yearly and quarterly reports and disclosures – Regular meetings and communications – Regulatory filings, responses to requests for information – Participation in legislation and policy development – Payment of taxes – Submissions to government enquiries – Business conformance audits – Tours of operations and site visits – Community and social performance initiatives	Regularly
Investors	– Financial and operating performance – Reserves and resources – Mergers, acquisitions and divestments – Sustainability disclosures – Governance and business integrity practices – Human rights performance – Climate change and political risk – Closure – Non-managed operations	– Yearly, half yearly and quarterly reports, sustainability reports, market announcements, investor seminars, annual general meetings, site tours, road shows – Regular meetings and communications – Participation in sustainability and ethical indices surveys, disclosure questionnaires and benchmarking – Investor seminars on special interest topics	Quarterly/ annually/as and when required

Customers and suppliers	– Our management of suppliers and contractors – Procurement opportunities – Financial and operating performance – Responsible sourcing and resource stewardship – Product reliability, quality and regulation – Pricing and contracts – Logistics – Research and development	– Supplier Code of Conduct – Know Your Supplier/Know Your Customer procedures – Contract negotiations – Contractor safety programmes, participation in continuous improvement and safety initiatives – Local content agreements – Site visits, meetings and personal communications – Questionnaires and assessments linked to collective initiatives, certification schemes	Continuous contact/visits
Non-government organisations, special interest groups and civil society	– Safety, health and environmental performance – Human rights including the rights of Indigenous peoples – Employee and community relations and development – Responsible sourcing – Business integrity practices and transparency – Research and development – Partnership and investment opportunities	– Yearly, half yearly and quarterly reports, sustainability reports – Regular meetings and communications – Civil society organisation roundtables – Participation in multi-stakeholder initiatives, forums, conferences, working groups – Partnerships and memberships	Quarterly, annually as and when required
Peers and industry associations	– Environment and resource stewardship, closure – Technology and innovation – Sharing lessons, opportunities and best practice – Regulatory trends – Policy trends, positions and development – Industry reputation and legacy	– Membership, regular meetings and communications – Participation in industry forums, conferences, working groups	Yearly/ as and when required
Media	– Transparent disclosure and information sharing	– Press releases on financial and operating performance, mergers, acquisitions and divestments – Meetings and interviews	As and when required

Voluntary commitments and accreditation

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 Aluminium Stewardship Initiative (ASI).

Business for Social Responsibility (BSR)

BSR is a global non-profit organization 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. We prepare our Group-level sustainable development report 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

We participate in the Kimberley Process (KP) 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 get 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 who 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 Partners

The Proteus Partnership was formed in 2003 as a collaborative effort between leading extractive companies and the United Nations Environmental Program 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, Rio Tinto has access to the UNEP-WCMC online biodiversity assessment tool, which allows us to scan for potential sensitive areas in areas 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.

Towards Sustainable Mining (TSM)

We participate in the Towards Sustainable Mining (TSM) programme through our membership of the Mining Association of Canada (MAC). TSM is a sustainability certification scheme that applies to members of MAC operating in Canada.

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. In 2016, our chief executive signed a public statement of support for the SDGs.

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.

Voluntary Principles on Security and Human Rights (VPSHR)

The VPSHR guide 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-government 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.

Sustainability performance

The data here is reported for a calendar year and may be adjusted if verification processes detect material errors or to ensure comparability over time. Where data has been restated, there is a footnote that explains the change. Where possible, we include data for operations acquired before 1 October of the reporting period. Operations that have been sold are included in data collection processes up until the transfer of management control. See more about our performance in the interactive charts on riotinto.com.

2019 performance against targets

Goals	2019 performance
To reach zero fatalities, and to eliminate workplace injuries and catastrophic events	- Zero fatalities at managed operations - All injury frequency rate (AIFR) at 0.42 (target: 0.38), reduced 5% from 2018 (0.44) - 1.42 million critical risk management (CRM) 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	- Reduction: 64.6% (38.5% airborne and 26.1% noise) - Participation: 11 sites (167 exposed employees and contractors)
24% reduction in total greenhouse gas emissions intensity between 2008 and 2020	- 29.4% decrease in greenhouse gas emissions intensity since 2008
To reduce the rate of new occupational illnesses each year	- 34% decrease in the rate of new occupational illnesses since 2018
To disclose for all managed operations by 2023, their permitted surface water allocation volumes, their 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	- Target statements defined and approved by our Sustainability Committee, a sub-committee of our Board. Assurance milestone schedules have been developed for the water target period (2019-23) and performance against these milestones will be tracked and assured annually.
To demonstrate local economic benefits from employment and procurement of goods and services by reporting yearly against a locally defined target To be effectively capturing and managing community complaints and reducing repeat and significant complaints each year	- 90% of assets are on track[a] to achieve their 2020 significant complaints target - 80% of assets are on track to achieve their 2020 repeat complaints target - 70% of assets are on track to achieve their 2020 local employment target - 84% of assets are on track to achieve their 2020 local procurement target
To improve diversity in our business by: –– Increasing women in senior management[a] by 2% each year; –– Aiming for 50% women in our graduate intake, with 30% from places where we are developing new businesses	- 25% of our Executive Committee were women, consistent with 2018 - 22.6% of senior management[b] were women, consistent with 2018 - 18.4% of our workforce were women, up 0.7% from 2018 - 54% of our graduate intake were women, 4% above target and up 18% from 2018 - 11.1% of Board roles were held by women. With the new non-executive director appointments announced in February 2020, this percentage has increased to 33% - 19% of our graduate intake were from places where we are developing new businesses[c]
Improving our employee engagement and satisfaction	- 12-point increase in our employee net promoter score (eNPS[d]) - 3-point increase in employee satisfaction score (eSAT[e]) - 4-point increase in our recommend score - 37% of Yammer members engage on a monthly basis, on average

[a] 'On track' means 75% or greater progress towards 2020 targets. A complaint is a communication that 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 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] We define senior management as general managers, Group advisers and chief advisers as well as employees in leadership roles who report directly to Executive Committee members.

[c] Identifying with a nationality is not mandatory. Over 48% of our graduates have not formally reported a nationality.

[d] 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).

[e] 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.

HEALTH, SAFETY AND WELLBEING

Health, safety and wellbeing overview (2015 – 2019)

	2019	2018	2017	2016	2015
Employees[(a)]	**46,000**	47,500	47,000	51,000	55,000
Fatalities at managed operations [(b)]	**0**	3	1	1	4
All injury frequency rate (AIFR) (per 200,000 hours worked)[(b)]	**0.42**	0.44	0.42	0.44	0.44
Number of lost time injuries	**230**	228*	199	206	220
Lost time injury frequency rate (LTIFR) (per 200,000 hours worked)[(b)]	**0.27**	0.27	0.25	0.26	0.25
New cases of occupational illness (per 10,000 employees)[(b)]	**20**	30*	25	47	32
Fines and prosecutions – safety (US$'000)	**540**	59	29.2	62.0	23.5
Fines and prosecutions – health (US$'000)	**1.4**	0	7.1	0.0	0.0

(a) Includes our share of joint ventures and associates, rounded
(b) Data relating to fatalities, all-injury frequency rate and lost-time injury frequency rate includes all employee and contractor exposure hours and incidents. New cases of occupational illness are reported for employees only.
* Numbers restated from those originally published to ensure comparability over time.

Contributing causes for newly reported illness cases (2019)

	2019
Noise-induced hearing loss	**35 (44%)**
Musculoskeletal disorders	**29 (36%)**
Mental stress	**2 (3%)**
Others	**14 (17%)**

PEOPLE

Employees by employment type[a] (2019)

	Women	Men
Executive management	19	76
Senior management	96	319
Regular employees[b]	6,626	30,929
Students/interns	166	190
Total permanent employees	**6,907**	**31,514**
Temporary	430	1114
Total[c]	**7,337**	**32,628**

(a) Gender distribution for our workforce is based on managed operations (excludes the Group's share of non-managed operations and joint ventures) as of 31 December 2019. Excludes non-executive directors and contractors. Less than 1% of the workforce gender is undeclared.
(b) Includes graduates.
(c) Includes temporary employees.

Workforce profile by region (2019)

	Employees[a]	Women[b]	Men[b]	Fatalities[c]	AIFR (per 200,000 hours worked)	Occupational illnesses (per 10,000 employees)[d]	Absenteeism rate[b][e]	
							Female	Male
Africa	5,000	19%	81%	0	0.30	35.8	61	69
Asia	4,000	15%	85%	0	0.14	0	43	47
Americas	16,000	27%	73%	0	0.48	18	59	65
Australia/New Zealand	20,000	29%	71%	0	0.58	25.9	82	77
Europe/UK	1,000	19%	81%	0	0.34	9.1	7	0
Total	**46,000**	**19%**	**81%**	**0**	**0.42**	**20.4**	**65**	**67**

(a) Includes the Group's share of joint ventures and associates averaged for the year (rounded).
(b) Gender distribution of our workforce is based on managed operations (excludes the Group's share of non-managed operations and joint ventures) as of 31 December 2019. Less than 1% of the workforce gender is undeclared
(c) Fatalities at managed operations resulting from fatal safety or health incidents.
(d) Estimates based on internal health and employee databases.
(e) Absenteeism includes sick leave, disability, FMLA and other unpaid leave.

Employee hiring and turnover rates[a] (2019)

	Gender[b]		Age group				Region				
	Female	Male	Under 30	30-39	40-49	Over 50	Africa	Asia	Americas	Australia/ New Zealand	Europe
Employee hiring rate	23%	14%	48%	16%	10%	5%	6%	20%	14%	16%	19%
Employee turnover rate[b]	10%	8%	9%	8%	7%	10%	5%	6%	7%	10%	10%

(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 2018. Less than 1% of the workforce gender is undeclared. Excludes non-executive directors and contractors. Rates have been calculated over average monthly headcount in the year. In 2018 Rio Tinto's definition of turnover changed to exclude temporary workers from the calculation.
(b) Turnover rate includes the reduction of employees due to business divestment.

Pay equity

Our equal pay gap is just under 2% and still slightly in favour of men. Our gender pay gap of less than 1% reflects the large sample size and masks a less favourable position, vis-à-vis women's earnings, at our UK head office. We continue to monitor this gap to make sure differences are due to legitimate factors, and take action if they are not.

COMMUNITIES

Economic contributions (US$ million) (2019)

	2019	2018	2017	2016	2015
Gross sales revenue	**45,367**	42,835	41,867	35,336	36,784
Net cash generated from operating activities[a]	**14,912**	11,821	13,884	8,465	9,383
Underlying earnings	**10,373**	8,808	8,627	5,100	4,540
Underlying earnings per share (US cents)	**636.3**	512.3	482.84	283.8	248.8
Profit/(loss) after tax for the year	**6,972**	13,925	8,851	4,776	(1,719)
Net cash/(debt)	**(3,651)**	255	(3,845)	(9,587)	(13,783)
Capital expenditure[b]	**(5,488)**	**(5,430)**	(4,482)	(3,012)	(4,685)
Employment costs	**(4,522)**	(4,728)	(4,765)	(4,881)	(5,446)
Payables to governments[c]	**(7,175)**	(7,217)	(6,637)	(4,025)	(3,666)
Value add[d] [e]	**27,841**	30,504	27,734	20,065	18,888
Payments to suppliers[e]	**(17,245)**	(17,231*)	(16,471*)	(15,812*)	(17,968*)
Amounts paid by Rio Tinto	**n/a[f]**	(6,575)	(5,138)	(3,984)	(4,523)
Amounts paid by Rio Tinto on behalf of its employees	**n/a[f]**	(1,342)	(1,402)	(1,416)	(1,569)
Community contributions	**^**	(192)	(176)	(168)	(187)

^ **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.

*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) Total payables to governments include: Amounts paid by Rio Tinto; and Amounts paid by Rio Tinto on behalf of its employees
(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.

	2019
Community investment[a]	**(36.4)**
Development contributions[b]	**(13.0)**
Payment to landowners[c]	**(147.3)**

(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.

CLIMATE CHANGE^

Greenhouse gas emissions and energy overview (2015-2019)

	2019	2018	2017	2016	2015
Total energy use (petajoules)	**407**	425*	440	458	433
Greenhouse gas emissions intensity (indexed relative to 2008)	**70.6**	71.6*	72.9	74.4	79.7
Greenhouse gas emissions – scope 1 (million tonnes CO_2 equivalent)	**17.1**	17.8*	20.0	21.0	20.1
Greenhouse gas emissions – scope 2 (million tonnes CO_2 equivalent)	**9.7**	10.9*	11.0	11.5	11.9
Greenhouse gas emissions – total (million tonnes CO_2 equivalent)	**26.4**	28.2*	30.6	32.0	31.6

* Numbers restated from those originally published to ensure comparability over time.
Total GHG emissions are scope 1 plus scope 2 emissions, minus emissions associated with electricity and steam exported to others, minus net carbon credits voluntarily purchased from, or sold to, recognised sources. Data reported is for all managed operations, without adjustment for equity interest.

Greenhouse gas emissions by product group (2019)
(million tonnes of CO_2 equivalent)

	Scope 1 greenhouse gas emissions	**Total greenhouse gas emissions**
Aluminium	9.0	**15.1**
Copper & Diamonds	1.3	**2.8**
Energy & Minerals	3.2	**4.9**
Iron Ore	3.3	**3.2**
Growth & Innovation	0.0	**0.0**
Corporate Functions[(a)]	0.4	**0.4**
Rio Tinto total	17.1	**26.4**

Due to rounding, sum may not equal the total shown.
(a) Includes corporate offices.

Greenhouse gas emissions by location (2019)
(million tonnes of CO_2 equivalent)

	Scope 1 greenhouse gas emissions	Scope 2 greenhouse gas emissions	**Total greenhouse gas emissions**
Australia	7.4	6.3	**13.4**
Canada	6.2	0.0	**6.2**
South Africa	0.5	1.8	**2.2**
United States	1.1	0.1	**1.2**
Other: Rest of Africa	0.1	0.0	**0.1**
Other: Rest of Europe	0.5	0.0	**0.5**
Other: Asia, New Zealand, Central and South America	1.4	1.4	**2.8**
Rio Tinto total	17.1	9.7	**26.4**

Due to rounding, sum may not equal the total shown. Includes corporate offices.

^Parameters are reported for all managed operations, without adjustment for equity interests.

ENVIRONMENT

Operational environment overview (2015-2019)

	2019	2018	2017	2016	2015
Significant environmental incidents	**0**	0	0	1	0
Fines and prosecutions – environment (US$'000)	**19.0**	284.7	89.5	57.6	130.4
Freshwater withdrawal (billion litres)	**562**	539	584	573	564
Freshwater used (billion litres)	**448**	401	465	467	460
Land footprint – disturbed (square kilometres)	**3,622**	3,595	3,616	3,696	3,629
Land footprint – rehabilitated (square kilometres)	**490**	485	497	541	533
Mineral waste disposed or stored (million tonnes)	**902**	886	1,188	1,726	1,746
Non-mineral waste disposed or stored (million tonnes)	**0.28**	0.27	0.33	0.53	0.28
SOx emissions (thousand tonnes)	**80.0**	84.2	86.9	88.0	86.9
NOx emissions (thousand tonnes)	**64.3**	62.0	65.8	69.1	66.7
Fluoride emissions (thousand tonnes)	**2.34**	2.61	2.49	2.50	2.29
Particulate (PM^{10}) emissions (thousand tonnes)	**55.6**	62.8	67.2	91.7	94.5

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

Water withdrawal by product group (2019)
(billion litres)

	Marine	Surface water	Groundwater	Municipal water	**Total**
Aluminium	52	41	30	12	**136**
Copper & Diamonds	0	24	44	1	**69**
Energy & Minerals	0	260	35	6	**301**
Iron Ore	3	0	187	5	**195**
Growth & Innovation	0	0	0	0	**0**
Other[(a)]	15	0	0	0	**15**
Rio Tinto total	70	326	296	24	**716**

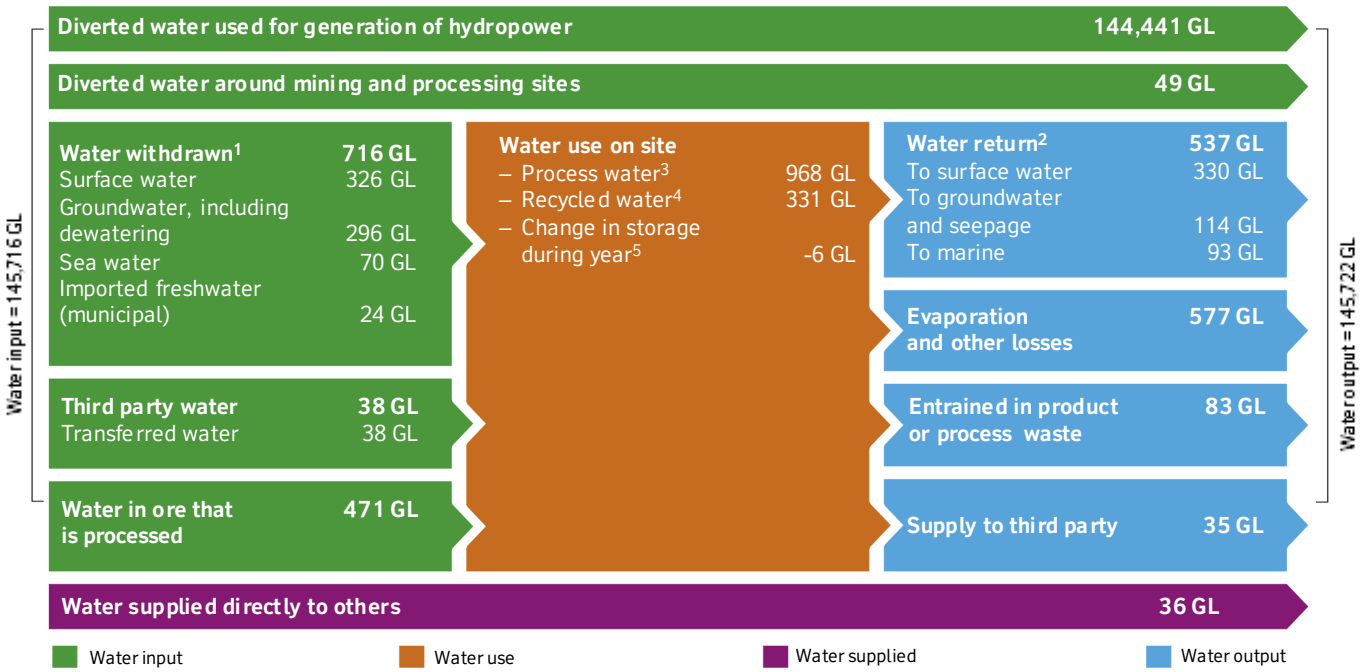
Due to rounding, sum may not equal the total shown.
(a) Includes corporate offices.

Water withdrawal by location (2019)
(billion litres)

	Marine	Surface water	Groundwater	Municipal water	**Total**
Australia	55	35	208	15	**313**
Canada	0	261	31	4	**297**
France	0	1	0	0	**1**
South Africa	0	8	0	2	**10**
United Kingdom	15	0	0	0	**15**
United States	0	19	27	2	**49**
Other: Rest of Africa	0	1	3	0	**5**
Other: Rest of Europe	0	0	10	0	**10**
Other: Asia, New Zealand, Central and South America	0	1	16	0	**17**
Rio Tinto total	70	326	296	24	**716**

Due to rounding, sum may not equal the total shown. Includes corporate offices.

Water balance (2019)



1. Including on site impounded/imported surface, onsite/impounded groundwater (including dewatering) and marine water.
2. Including process effluent and dewatering water discharged without use
3. Including mining (dewatering), milling, washing, power generation, dust suppression, etc.
4. Tailings, sewage or water contaminated in process that has been treated for re-use.
5. The difference between total water input and total water output is "change in storage".

ETHICS AND INTEGRITY

Ethics and integrity – *Talk to Peggy* programme (2019)

	Cases		Types of *Talk to Peggy* cases					
	Number of cases	Cases substantiated	Personnel	Business integrity	Information security	Health and safety	Miscellaneous	Other
Talk to Peggy programme[(a)]	805	34%	55%	18%	14%	7%	6%	<1%

[(a)] Due to rounding, the sum may not total 100%.

Ethics and integrity – training

4,400 employees and contractors in 15 countries had face-to-face training in recognising and managing business integrity dilemmas.

Value chain

	2019
Number of third parties centrally monitored (approximately)	**9,200**
Due diligence checks completed on third parties	**3,273**

Global Reporting Initiative content index

We have applied the reporting principles of GRI 101: Foundation 2016 Standard in this report.

General disclosures

Disclosure number	Disclosure title	Location or explanation
102-1	Name of the organisation	2019 Annual Report
102-2	Activities, brands, products and services	Annual Report – Strategic report (pages 4-6), Annual report - Production, reserves and operations (pages 270-287)
102-3	Location of headquarters	Annual Report – Shareholder information (page 292)
102-4	Location of operations	Annual Report – Production, reserves and operations (pages 270-287)
102-5	Ownership and legal form	Annual Report – Shareholder information (pages 292-299)
102-6	Markets served	Annual Report – Strategic report (pages 4-81)
102-7	Scale of the organisation	Annual Report – Strategic report (pages 4-81)
102-8	Information on employees and other workers	2019 Sustainability appendix
102-9	Supply chain	Annual Report – Strategic report (pages 40-58)
102-10	Significant changes to the organization and its supply chain	Annual Report – Portfolio management (page 38-39) Annual Report – Chairman's statement (pages 7-9)
102-11	Precautionary principle or approach	Sustainability appendix - Voluntary commitments and accreditation
102-12	External initiatives	Sustainability appendix - Voluntary commitments and accreditation
102-13	Membership of associations	Industry association disclosure
102-14	Statement from the most senior decision-maker	Annual Report - Chairman's statement (page 8) Annual Report – Chief executive's message (page 12) Annual Report – Sustainability Committee report (pages 104-105) 2019 Sustainability highlights brochure
102-15	Key impacts, risks and opportunities	Annual Report – Strategic report (pages 71-80) 2019 Sustainability appendix - Reporting what matters
102-16	Value, principles, standards and norms of behaviour	Policies & Standards Annual Report – Our values (pages 15)
102-17	Mechanism for advice and concern about ethics	Annual Report – Sustainability (pages 60-70)
102-18	Governance structure	Annual Report – Directors' report (pages 84-109)
102-19	Delegating authority	Annual Report – Directors' report (pages 84-109)
102-20	Executive-level responsibility for economic, environmental, and social topics	Annual Report – Sustainability Committee report (pages 104-105)
102-21	Consulting stakeholders on economic, environmental, and social topics	2019 Sustainability appendix – Our stakeholders
102-22	Composition of the highest governance body and its committees	Annual Report – Directors' report (pages 84-109)
102-23	Chair of the highest governance body	Annual Report – Chairman's statement (pages 8-9)
102-24	Nominating and selecting the highest governance body	Annual Report – Directors' report (pages 84-109)
102-25	Conflicts of interest	Annual Report – Directors' report (pages 84-109)
102-26	Role of highest governance body in setting purpose, values, and strategy	Annual Report – Directors' report (pages 84-109)

Disclosure number	Disclosure title	Location or explanation
102-27	Collective knowledge of highest governance body	Annual Report – Directors' report (pages 84-109)
102-28	Evaluating the highest governance body's performance	Annual Report – Directors' report (pages 96-97)
102-29	Identifying and managing economic, environmental, and social impacts	Annual Report – Strategic report (pages 71-80) 2019 Sustainability appendix – Reporting what matters Our Sustainability Approach
102-30	Effectiveness of risk management processes	Annual Report – Key performance indicators (pages 22-26) Annual Report – Strategic report (pages 71-80) 2019 Sustainability appendix – Reporting what matters
102-31	Review of economic, environmental, and social topics	Annual Report – Strategic report (pages 71-80) 2019 Sustainability appendix – Reporting what matters
102-32	Highest governance body's role in sustainability reporting	Annual Report – Sustainability Committee report (pages 104 – 105)
102-33	Communicating critical concerns	Annual Report – Directors' report (pages 84-109) 2019 Sustainability appendix – Reporting what matters
102-35	Remuneration policies	Annual Report – Directors' report (pages 110-143)
102-36	Process for determining remuneration	Annual Report – Directors' report (pages 110-143)
102-37	Stakeholders' involvement in remuneration	Annual Report – Directors' report (pages 110-143)
102-40	List of stakeholder groups	2019 Sustainability appendix – Our stakeholders
102-41	Collective bargaining agreements	Our human rights guidance is applicable at all sites and covers freedom of association in relation to union membership.
102-42	Stakeholder identification and selection	2019 Sustainability appendix – Our stakeholders
102-43	Approach to stakeholder engagement	2019 Sustainability appendix – Our stakeholders Annual Report – Our stakeholders (pages 92-93)
102-44	Stakeholder topics and concerns	2019 Sustainability appendix – Our stakeholders Annual Report – Our stakeholders (pages 92-93)
102-45	Entities in consolidated financial statements	Annual Report – Financial statements (pages 146-269)
102-46	Defining report content and topic boundaries	Annual Report – Sustainability (pages 60 – 70) 2019 Sustainability appendix – Reporting what matters
102-47	List of material topics	Annual Report – Sustainability (pages 60 – 70) 2019 Sustainability appendix – Reporting what matters
102-48	Restatements of information	Stated accordingly
102-49	Changes in reporting	2019 Sustainability appendix – Reporting what matters
102-50	Reporting period	1 January 2019 to 31 December 2019
102-51	Date of most recent report	11 March, 2019
102-52	Reporting cycle	Annual
102-53	Contact for questions regarding the report	Contact us at sustainability@riotinto.com
102-54	Claims of reporting in accordance with GRI Standards	This report has been prepared in accordance with the GRI Standards: Core option
102-55	GRI content index	2019 Sustainability appendix - Global Reporting Initiative content index
102-56	External assurance	Annual Report – Independent Limited Assurance Report (pages 290-291)

Management approach to disclosures

Our 2019 sustainability performance, including performance against targets, is detailed in this GRI content table and our 2019 Annual report.

Refer to the 'Reporting what matters' section of this Sustainability appendix for an overview of the process used to determine our material topics together with the underlying reason why they have been deemed material for our business.

More specific information can be found online at riotinto.com where indicated.

Material topics

Disclosure number	Disclosure title	Location or explanation
Economic performance		
103-1	Explanation of the material topic and its Boundary	2019 Sustainability appendix – Reporting what matters: Communities
103-2	Management approach and its economic performance	Communities Annual Report – Sustainability (pages 64 – 70)
103-3	Evaluation of the management approach	2019 Sustainability appendix – Sustainability performance
201-1	Direct economic value generated and distributed	2019 Sustainability appendix – Sustainability performance
201-2	Financial implications and other risks and opportunities of climate change	Climate change Climate change report 2019
201-3	Defined benefit plan obligations and other retirement plans	Annual Report – Directors' report (pages 84-109) Annual Report – Financial statements (page 218)
201-4	Financial assistance received from government	No significant financial assistance has been received from governments during 2019.
Market presence		
103-1	Explanation of the material topic and its Boundary	2019 Sustainability appendix – Reporting what matters: Employee relations
103-2	Management approach and economic performance	People Annual Report – Sustainability (pages 60 – 70) Annual Report – Remuneration committee (pages 110-111), Pay equity
103-3	Evaluation of the management approach	2019 Sustainability appendix – Sustainability performance Pay equity
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	All Rio Tinto operations comply with local laws and regulations. We ensure our entry level wages are equal to minimum wages of the local regulations. Pay equity

Disclosure number	Disclosure title	Location or explanation
Indirect economic impacts		
103-1	Explanation of the material topic and its Boundary	2019 Sustainability appendix – Reporting what matters: Communities
103-2	Management approach on economic performance	Communities Annual Report – Sustainability (pages 60 – 70)
103-3	Evaluation of the management approach	2019 Sustainability appendix – Sustainability performance
203-1	Infrastructure investments and services supported	2019 Sustainability appendix – Sustainability performance Communities
203-2	Significant indirect economic impacts	2019 Sustainability appendix – Sustainability performance Communities
Procurement practices		
103-1	Explanation of the material topic and its Boundary	2019 Sustainability appendix – Reporting what matters: Value chain
103-2	Management approach on procurement practices	Value chain
103-3	Evaluation of the management approach	2019 Sustainability appendix – Sustainability performance Value chain
204-1	Proportion of spending on local suppliers	Annual report – Sustainability (pages 64 – 70) Value chain Communities
Anti-corruption		
103-1	Explanation of the material topic and its Boundary	2019 Sustainability appendix – Reporting what matters: Ethics & Integrity, Transparency
103-2	Management approach on anti-corruption	Annual report – Audit Committee report (pages 100-103) Annual report – Sustainability (pages 64 – 70) Ethics & integrity
103-3	Evaluation of the management approach	2019 Sustainability appendix – Sustainability performance Value chain
205-2	Communication and training about anti-corruption policies and procedures	Annual report – Sustainability (pages 60 – 70) 2019 Sustainability appendix – Sustainability performance The way we work Antitrust standard Business Integrity Standard
205-3	Confirmed incidents of corruption and actions taken	2019 Sustainability appendix – Sustainability performance
Energy		
103-1	Explanation of the material topic and its Boundary	2019 Sustainability appendix – Reporting what matters: Climate change
103-2	Management approach on energy	Climate change Climate change report 2019 Climate change position statement
103-3	Evaluation of the management approach	Climate change report 2019 2019 Sustainability appendix – Sustainability performance ICMM principle 6
302-1	Energy consumption within the organization	2019 Sustainability appendix – Sustainability performance

Disclosure number	Disclosure title	Location or explanation
Water		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Water
103-2	Management approach on water	Water ICMM principle 6
103-3	Evaluation of the management approach	Water 2019 Sustainability appendix – Sustainability performance
303-1	Water withdrawal by source	2019 Sustainability appendix – Sustainability performance
303-2	Water sources significantly affected by withdrawal of water	2019 Sustainability appendix – Sustainability performance
303-3	Water recycled and reused	2019 Sustainability appendix – Sustainability performance
Biodiversity		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Biodiversity and ecosystems
103-2	Management approach on biodiversity	Biodiversity ICMM principles 2,7
103-3	Evaluation of the management approach	Biodiversity
304-3	Habitats protected or restored	Biodiversity 2019 Sustainability appendix – Sustainability performance
MM1	Amount of land (owned or leased, and managed for production activities or extractive use) disturbed or rehabilitated	In 2019, 24% of Rio Tinto's disturbed land (excluding land disturbed for hydroelectricity dams) had been rehabilitated. 2019 Sustainability appendix – Sustainability performance
Emissions		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters - Energy
103-2	Management approach on emissions	Climate change Climate change report 2019 ICMM principle 6
103-3	Evaluation of the management approach	Climate change 2019 Sustainability appendix – Sustainability performance
305-1	Direct (Scope 1) GHG emissions	Climate change 2019 Sustainability appendix – Sustainability performance
305-2	Energy indirect (Scope 2) GHG emissions	Climate change 2019 Sustainability appendix – Sustainability performance
305-3	Other indirect (Scope 3) GHG emissions	Climate change
305-4	GHG emissions intensity	Climate change 2019 Sustainability appendix – Sustainability performance
305-7	Nitrogen oxides (NOx), sulphur oxides (SOx), and other significant air emissions	Air 2019 Sustainability appendix – Sustainability performance
Effluents and waste		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Waste and circular economy, Tailings and structures
103-2	Management approach on tailings and structures and waste	Land Tailings ICMM principle 7
103-3	Evaluation of the management approach	Land

Disclosure number	Disclosure title	Location or explanation
		Tailings
306-1	Water discharge by quality and destination	2019 Sustainability appendix – Sustainability performance
306-2	Waste by type and disposal method	2019 Sustainability appendix – Sustainability performance
MM3	Overburden, rock, tailings and sludges and their associated risks	Land Tailings 2019 Sustainability appendix – Sustainability performance Managing Mineral Waste ARD Approach
Environmental compliance		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Operational environment
103-2	Management approach on environmental compliance	Annual Report – Sustainability (pages 64 – 70) ICMM principle 6
103-3	Evaluation of the management approach	2019 Sustainability appendix – Sustainability performance
307-1	Non-compliance with environmental laws and regulations	2019 Sustainability appendix – Sustainability performance
Supplier environmental assessment		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Value chain
103-2	Management approach on supplier environmental assessment	Supplier Code of Conduct Annual Report – Sustainability (pages 64-70) Ethics & Integrity
103-3	Evaluation of the management approach	Annual Report – Sustainability (pages 64-70) Ethics & Integrity
308-1	New suppliers that were screened using environmental criteria	Ethics & Integrity 2019 Sustainability appendix – Sustainability performance
Employment		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Employee relations
103-2	Management approach on employment	People Employment Policy Inclusion & Diversity Policy Why Gender Matters
103-3	Evaluation of the management approach	2019 Sustainability appendix – Sustainability performance
401-1	New employee hires and employee turnover	2019 Sustainability appendix – Sustainability performance
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Annual Report – Remuneration report (pages 101-138)
401-3	Parental leave	We provide paid parental leave of 18 weeks for primary caregiver (and one week for secondary caregiver) to employees becoming parent through birth or adoption. This benefit is non-gender specific and is available to same-gender couples.
Labour/management relations		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Employee relations

Disclosure number	Disclosure title	Location or explanation
103-2	Management approach on employment	People Employment Policy Inclusion & Diversity Policy Why Gender Matters
103-3	Evaluation of the management approach	People
402-1	Minimum notice periods regarding operational changes	We provide the minimum notice periods required by local legislation in the regions where we operate. It is typically two to four weeks and up to three months' notice. In cases where employees are represented by labour unions, notice periods are provided by local legislation or in collective bargaining agreements.
MM4	Strikes and lock-outs exceeding one week's duration	In 2019 we did not experience strike or lock-outs across all regions for all site and locations managed by Rio Tinto.
Occupational health and safety		
403-1	Occupational health and safety management system	Management System Standard ICMM principle 5
403-2	Hazard identification, risk assessment, and incident investigation	Management System Standard Health, safety and wellbeing
403-3	Occupational health services	Management System Standard Health, safety and wellbeing
403-5	Worker training on occupational health and safety	Management System Standard Health, safety and wellbeing
403-6	Promotion of worker health	Health, safety and wellbeing
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Product Stewardship Strategy
403-8	Workers covered by an occupational health and safety management system	Management System Standard
403-9	Work-related injuries	Health, safety and wellbeing 2019 Sustainability appendix – Sustainability performance
403-10	Work-related ill health	Health, safety and wellbeing 2019 Sustainability appendix – Sustainability performance
Training and education		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Employee relations
103-2	Management approach to training and education	People ICMM principles 3, 5
103-3	Evaluation of the management approach	People 2019 Sustainability appendix – Sustainability performance
404-2	Programs for upgrading employee skills and transition assistance programme	During 2019, 389,680 attendances were recorded for training in leadership, technical and operational skills, as well as health, safety and environment courses across the business.
404-3	Percentage of employees receiving regular performance and career development reviews	We have moved to a more agile approach focusing on regular performance feedback and development conversations. The frequency is determined by the leader and the employee.
Diversity and equal opportunity		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Employee relations

Disclosure number	Disclosure title	Location or explanation
103-2	Management approach on diversity and equal opportunity	People The way we work Employment Policy Inclusion & Diversity Policy Why Gender Matters
103-3	Evaluation of the management approach	People Pay equity
405-1	Diversity of governance bodies and employees	Annual report – Directors' report (pages 84-87) Annual report – Sustainability (pages 60 – 70) 2019 Sustainability appendix – Sustainability performance
405-2	Ratio of basic salary and remuneration of women to men	2019 Sustainability appendix – Sustainability performance People Pay equity
Freedom of association and collective bargaining		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Employee relations
103-2	Management approach on freedom of association and collective bargaining	The way we work
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	We recognise the right of all employees to choose to belong to a union and seek to bargain collectively. In 2019 we signed 15 collective labour agreements in North America, 11 in Europe, 1 in Madagascar and 1 in Australia. The way we work Supplier Code of Conduct
Child, forced or compulsory labour		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Human Rights
103-2	Management approach on child, forced or compulsory labour	The way we work Supplier Code of Conduct
103-3	Evaluation of the management approach	No child, forced or compulsory labour in our operations
408-1	Operations and suppliers at significant risk for incidents of child labour	Human Rights Annual report – Sustainability (pages 60–70)
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labour	Human Rights Annual report – Sustainability (pages 60–70)
Security practices		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Human Rights
103-2	Management approach on security practices	Human Rights The way we work VPSHR report ICMM principle 3
103-3	Evaluation of the management approach	Human Rights
410-1	Security personnel trained in human rights policies or procedures	Human Rights
Rights of Indigenous Peoples		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Communities, Human Rights

Disclosure number	Disclosure title	Location or explanation
103-2	Management approach on rights of Indigenous Peoples	Communities The way we work Why Agreements Matter
103-3	Evaluation of the management approach	CSP grievance mechanism
411-1	Incidents of violations involving rights of Indigenous peoples	Data not available in 2019. Read more about our commitments and approach in relation to Indigenous communities at riotinto.com. Human Rights Communities
MM5	Operations taking place in or adjacent to Indigenous peoples' territories, and number and percentage of operations or sites where there are formal agreements with Indigenous peoples' communities	Data not available in 2019. Read more about our commitments and approach in relation to Indigenous communities at riotinto.com. Human Rights Communities
Human rights assessments		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Human Rights
103-2	Management approach on Human rights assessments	Human Rights Human Rights Policy Why Human Rights Matter Modern Slavery & Human Trafficking Statement United Nations Global Compact: Communication on Progress
103-3	Evaluation of the management approach	Human Rights
412-2	Employee training on human rights policies or procedures	Human Rights
Local communities		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Communities
103-2	Management approach on communities	Communities Communities and Social Performance Standard ICMM principle 9, 10
103-3	Evaluation of the management approach	Communities 2019 Sustainability appendix – Sustainability performance
413-1	Operations with local community engagement, impact assessments, and development programmes	Communities 2019 Sustainability appendix – Sustainability performance
MM6	Significant disputes relating to land use, customary rights of local communities and Indigenous peoples*	There were no new significant disputes relating to our managed operations involving land use or customary rights of Indigenous Peoples in 2019.* *We refer here exclusively to legal claims of indigenous peoples, not complaints in our grievance mechanisms or non-judicial mechanisms. Legal proceedings are ongoing in relation to Indigenous Peoples claims in British Columbia and Quebec relating to two of our operations.
MM7	Grievance mechanisms used to resolve disputes relating to land use, customary rights of local communities and Indigenous peoples	All of our sites must have a complaints, disputes and grievance mechanism.
Supplier social assessment		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Value chain

Disclosure number	Disclosure title	Location or explanation
103-2	Management approach on Supplier social assessment	Supplier Code of Conduct Annual Report – Sustainability (pages 64 – 70) Ethics & Integrity
103-3	Evaluation of the management approach	Annual Report – Sustainability (pages 64 – 70) Ethics & Integrity
414-1	New suppliers that were screened using social criteria	Ethics & Integrity 2019 Sustainability appendix – Sustainability performance
Public policy		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Corporate political behaviour
103-2	Management approach on Public policy	The way we work
103-3	Evaluation of the management approach	Transparency Annual Report – Directors' report (pages 84-109)
415-1	Political contributions	The Group made no political donations (as defined by the UK Companies Act 2006) in the EU, Australia or elsewhere during 2019. Annual Report – Directors' report (pages 84-109)
Socio-economic compliance		
103-1	Explanation of the material topic and Boundary	2019 Sustainability appendix – Reporting what matters: Ethics & Integrity
103-2	Management approach on Socio-economic compliance	The way we work
103-3	Evaluation of the management approach	Annual Report – Directors' report (pages 84-109)
419-1	Non-compliance with laws and regulations in the social and economic area	Annual Report – Directors' report (pages 84-109) ICMM principle 4
Artisanal and small-scale mining		
MM8	Number (and percentage) of company operating sites where artisanal and small-scale mining takes place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks	Nil
Resettlement		
MM9	Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process	There were no new resettlement sites in 2019. We are currently monitoring the outcomes from the resettlement of communities at our Oyu Tolgoi operations and resettling community members at our Richards Bay operation. Communities
Closure planning		
103-1	Explanation of the material topic and Boundary	Closure
103-2	Management approach on closure	Closure ICMM principle 6, 9
103-3	Evaluation of the management approach	Closure
MM10	Number and percentage of operations with closure plans	Closure
Other material topics		
103-2	Management approach on cyber security	Cyber security

Basis of reporting glossary

Term	Definition
All injuries	All injuries refers to the combination of lost time injuries and medical treatment cases.
Annual allocation usage	The actual water volume used from the operation's permitted allocation over a calendar year.
Biodiversity	Biodiversity is the variety of life on Earth – the different animals, plants and micro-organisms, their genes and the ecosystems in which they live.
Brownfield exploration	Brownfield exploration is directed at sustaining or growing our existing businesses. With processing infrastructure already in place, the cost of developing brownfield orebodies is usually lower than in a greenfield setting.
Community Investments	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.
Contractor	Contractor is a person or organisation providing services to an employer at the employer's workplace in line with agreed specifications, terms and conditions. In the context of our Rio Tinto's health, safety and environmental standards, we classify contractors in three categories: – Category 1: Individuals working on temporary contracts within existing operations – Category 2: Companies or individuals hired for a discrete project which will be carried out in a designated area separate from existing operations – Category 3: Companies or individuals contracted to carry out specific tasks or provide specified services within existing operations.
Development contributions	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.
Direct economic contribution	Direct economic contribution is the total value of value add, payments to suppliers, development contributions, payment to landowners and community investments during the year.
Emission (air) incident	Emission (air) incident refers to an environmental incident in which material and/or energy is released in an uncontrolled way into the atmosphere, or to emissions that are not compliant with agreed licences, including dust, noise, vibration and blasting incidents.
Employee	Employee is a person in full or part-time employment at a Rio Tinto business and listed on the payroll.
Energy use	Energy use includes energy associated with the combustion of fuels, as well as energy from electricity and other sources such as steam and hydropower. Energy use for anodes and reductants is evaluated from a carbon balance used to evaluate the resultant carbon dioxide emissions. Under our reporting guidelines, any operation not expected to consume 40,000 gigajoules (GJ) of energy in any year over the next three years can be excluded from our data collection processes. Reporting trivial quantities of fuels and emissions may result in a significant workload, so operations can omit or estimate individual emission or energy sources from their inventories subject to these rules: – For non-Australian operations: individual sources that can be excluded should be less than 10,000 GJ. The total of these excluded sources should be less than 5% of the operation's complete inventory. – For Australian operations: the National Greenhouse and Energy Reporting (NGER) Act 2007 requires all sources to be included, but some incidental sources can be estimated. An incidental source is any source that is less than 30,000 GJ of the facility's energy use or energy produced. The total of these incidental sources must be less than 120,000 GJ. – Energy conversion factors must be consistent with Australian National Greenhouse and Energy Reporting Measurement Determination 2008 for Australian operations. For non-Australian operations, we use default factors from the Intergovernmental Panel on Climate Change (IPCC) and International Energy Agency (IEA), unless there is a more suitable factor available from local suppliers or government
Environment	Environment means the surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans, and the interrelation of all of these.
Fatal injury or occupational illness	Fatal injury or occupational illness means when one or more people die as a result of a work-related injury or occupational illness occurring during their employment. Lost and restricted days are not calculated for fatalities.

Term	Definition
Freshwater withdrawn	Freshwater withdrawn includes: – imported surface water (water provided by a third party for our use) – on-site impounded water used in process applications – imported and on-site groundwater – freshwater withdrawn for use as cooling water that's chemically, physically or biologically modified at the final point of discharge and/or returned to the environment with a temperature change of more than five degrees. Freshwater withdrawn does not include: – poor quality water – overflow of water in heavy rain conditions from impoundments which has not had its quality significantly changed by inputs and seepage – water diverted to avoid contamination, but not subsequently withdrawn or intercepted for use – water withdrawn and directly supplied to others, such as for use in agricultural or pastoral properties, for export to third parties or for town use – freshwater withdrawn and used for hydropower generation.
Freshwater used	Freshwater used includes: – imported surface water (water provided by a third party for our use) – on-site impounded water used in process applications – imported groundwater – on-site groundwater, except that extracted for ground control (dewatering) and discharged without use – freshwater withdrawn for use as cooling water that's chemically, physically or biologically modified at the final point of discharge and/or returned to the environment with a temperature change of more than 5°C.
Frequency rates	Frequency rates are used as a measure injury or illness performance, for example: – All injury frequency rate (AIFR) = number of all injuries x 200,000/hours of exposure – Lost time injury frequency rate (LTIFR) = number of lost time injuries x 200,000/hours of exposure – Rate of new cases of occupational illness (NCOI) = number of all new cases of occupational illnesses x 10,000/number of employees (based on average monthly statistics) We use AIFR to assess performance against our goal of zero safety injuries or all employees and all categories of contractors. We calculate our health target (rate of new cases of occupational illness) using employee data only, for managed operations only. While we record diagnosed occupational illnesses for contractors, we don't use this data within the calculation of the rate of new cases of occupational illness. Developing operations and acquisitions after 31 December in the previous reporting year are also excluded when assessing performance against these targets. Divested and closed operations are removed from the baseline when assessing performance against these targets.
Freshwater	Freshwater refers to drinkable or good-quality water with total dissolved solids less than 1,500 milligrams per litre, pH 5-9, and individual dissolved constituents (metals, anions) at concentrations suitable for agricultural, livestock or irrigation use based on local, regional or national guidelines.
Greenfield	Greenfield exploration aims to establish completely new operating business units, involving geographic or commodity diversification away from our existing operations.

Term	Definition
Greenhouse gas emissions	Greenhouse gas emissions are the six groups of gases we report against as included in the Kyoto Protocol: carbon dioxide, hydrofluorocarbons, methane, nitrous oxide, perfluorinated carbon compounds and sulphur hexafluoride. Under our reporting guidelines, individual operations not expected to exceed 3,000 tonnes of carbon dioxide equivalent (tCO_2-e) emissions in any year over the next three years can be excluded from our data collection processes. Reporting trivial quantities of fuels and emissions can result in a significant workload. Operations can omit or estimate individual emission sources from their inventories subject to these rules: – For non-Australian operations: individual sources that can be excluded should be less than 1,000 tCO2-e. The total of these excluded sources should be less than 5% of the operation's complete inventory. – For Australian operations: the Australian NGER Act 2007 requires all scope 1 and scope 2 emission sources to be included, but some incidental sources can be estimated. An incidental source is any source less than 3,000 tCO_2-e of scope 1 emissions and less than 3,000 tCO_2-e of scope 2 emissions for the facility. The total of these incidental sources must be less than 12,000 tCO_2-e of scope 1 emissions and less than 12,000 tCO_2-e of scope 2 emissions for the facility. The global warming potential (GWP) emission factors for all greenhouse gases are consistent with the IPCC Fourth Assessment Report (AR4 – 100 year).
GRI	GRI is the Global Reporting Initiative, an independent organisation with an international framework and standards for sustainability reporting on an organisation's economic, environmental and social performance. The GRI Standards include mandatory requirements for disclosure. An organisation preparing a report in accordance with the GRI Standards can choose one of two options (Core or Comprehensive), depending on the degree to which the GRI Standards have been applied.
HIV/AIDS	HIV/AIDS refers to a disease of the human immune system (acquired immune deficiency syndrome, or AIDS) caused by the human immunodeficiency virus (HIV).
Hours of exposure	Hours of exposure is the total number of actual hours where one or more employees/contractors are working or are present as a condition of their employment and are carrying out activities related to their employment duties. For employees: this can be calculated either as "planned time + overtime - all absences" or actual time (collected by gate pass or timesheet systems) or through reasonable estimates made by a Rio Tinto supervisor. For contractors: hours worked are either provided by the vendor or through reasonable estimates made by a Rio Tinto supervisor. These hours are recorded by month, vendor, work area and organisation unit to reflect the total time spent by contractors on our sites.
Incident	Incident is a single event or continuous/repetitive series of events that results in, or could have resulted in, one or more of the following: – an occupational injury or illness – damage to physical assets (plants or equipment), the environment, process, product or reputation – disruption to a community – exposure to legal liability – a security threat We evaluate an incident both by its actual consequence and the maximum reasonable outcome for each of these potential impacts.
Injury	Injury refers to any injury such as a cut, fracture, sprain or amputation resulting from a work-related event during a single shift. All occupational injuries are reported as safety incidents with safety impact. All occupational injuries must be recorded for employees and contractors regardless of contractor category.
Key products	Key products are products from which major business revenue is obtained (>10% of revenue per product). This includes major products sold by businesses from which >10% net revenue is gained and waste or by-products bringing major revenue. Examples of key products include iron lump, iron fines, copper cathode, gold, borates, uranium oxide, steel powder and molybdenum oxide.
Land footprint	Land footprint is land that has been disturbed for mining, processing and related activities including infrastructure (whether currently disturbed or rehabilitated), as at 31 December of the current reporting period.

Term	Definition
Life cycle assessment	Life cycle assessment is a technical analytical procedure that involves collating the environmental inputs and outputs related to a production process (life cycle inventory), followed by a scientific assessment of the potential environmental impacts of a product (life cycle impact assessment). Described by ISO 14040 series.
Local Water Stewardship Targets	Local water stewardship targets are targets set by managed operations and approved by the operation's managing director or general manager. These local stewardship targets reflect specific operational circumstances and aim to improve site-specific water performance under the following water stewardship areas: water import reduction, water intensity and efficiency, aquifer reinjection and inventory reduction. The selection of sites with local water stewardship targets was informed by the outcomes of 2018 water risk review of all managed operations in the portfolio facilitated by the Group water expert in the Environment Area of Expertise. Where appropriate, target trajectories for the local stewardship targets have been established to enable tracking and assessment of yearly performance. Changes to local water stewardship target statements and/or associated target trajectories can be considered in the circumstances described below. Local water performance targets can be changed to makes sure they stay relevant within the context of the local water risk and to drive performance improvement in managing water risk. A change is one that alters the level of performance necessary to meet a local water stewardship target or internal water target trajectory. We consider changes to local targets or trajectories only when there's a substantial change in production, conformance/compliance, reputation, community or environment circumstances that was not planned at the start of the target period and that makes the current target inappropriate for an operation. Each change must be approved by the product group chief executive and the global head of health, safety, environment and security before being used. An administrative change is one that adjusts the way a local target or trajectory is worded or premised without changing the level of performance necessary to meet the target or trajectory. These are only considered when needed to add clarity to the target or to correct the calculation of baseline or trajectory. An administrative change to a target and/or trajectory must be approved by the global head of health, safety, environment and security.
Lost day injury (LDI) or occupational illness	Lost day injury (LDI) or occupational illness is an injury or occupational illness that results in one or more days/shifts away from work, excluding the day of the incident. The number of lost or restricted calendar days and shifts reported for lost day injuries/illness must be counted until the person is cleared by a medical practitioner and either returns in a full-time unrestricted capacity to their pre-injury/illness role or (in the case of a recordable work injury) is permanently moved to another role.
Lost time injury or occupational illness	Lost time injury or occupational illness is the total of fatal, lost day and restricted work day injuries or illnesses.
Managed operation	Managed operation is an operation where: – Rio Tinto wholly owns the operation; or – A management agreement is in place naming Rio Tinto as the manager, or – Rio Tinto management systems and processes are fully implemented
Management costs	Personnel costs incurred by Rio Tinto in managing Community Investments and Development Contributions.
Materiality	Materiality in sustainability, as opposed to financial materiality, is the threshold at which an issue or topic becomes important enough to be reported externally, taking into account the impact and level of perceived importance from stakeholders.

Term	Definition
Medical treatment case injury or occupational illness	Medical treatment case injury or occupational illness is a work-related injury or occupational illness not classified as lost time resulting in loss of consciousness or medical treatment other than first aid. Medical treatment includes, but is not limited to: - Administering prescription medication - Using wound closing devices such as sutures, staples, or wound adhesives (glue). Where glue is used to protect a wound (not requiring sutures) as a precaution against infection in wet environments and in place of an adhesive dressing, this can be considered first aid treatment if supported in writing by a doctor or registered nurse. - Using devices with rigid stays or other systems designed to immobilise parts of the body - Using eye patches (except as a precautionary measure, and not extending into the next shift) Medical treatment does not include: - Visits to a physician or other licensed health care professional solely for observation or counselling, or diagnostic procedures, such as x-rays, blood tests and the administration of prescription medications solely for diagnostic purposes (eye drops to dilate pupils) or as a single dose administered on first visit for a minor injury or discomfort. - Injuries where the original or first treating doctor used sutures but is prepared to document that this was not necessary to treat the injury. This might happen, for instance, if steri-strips or butterfly bandages were not available.
Mineral waste	Mineral waste includes waste rock, tailings and slag. - Waste rock is composed of soils or bedrock that are removed to uncover or access ore during mining. - Tailings is the ground-up rock mixed with process water remaining after the minerals of economic interest have been removed from the ore. - Slag is generated by smelting operations and is the glassy material that remains after metals, such as copper, have been removed from the ore concentrate. Mineral waste is typically produced in very large volumes, and its handling and storage can directly impact the land. Mineral waste is usually permanently stored on site where it's used as in pit backfill or held in engineered repositories. Most mineral waste is inert, but some is chemically reactive and must be appropriately handled to protect people, wildlife and water quality.
Musculo-skeletal illness	Musculo-skeletal illness is a condition of the musculo-skeletal system associated with repetitive work-related trauma and/or exposure over time, lasting more than one shift (see also occupational illness). A case is reportable where a medical practitioner diagnoses musculo-skeletal disease which meets defined diagnostic criteria, is due to repeated workplace exposure (other than vibration) and results in medical treatment, restricted work days, lost days or permanent damage. This includes recurring musculo-skeletal conditions counted as a new case and reported only if the medical practitioner thinks the worker had fully recovered from the previous condition. This can include repetitive strain injuries, also known as occupational overuse syndrome.
New case/recurrence	New case/recurrence is an injury or illness classed as new because the employee hasn't previously experienced an injury or illness of the same type, or when the employee has completely recovered from the previous case and a new incident has caused the condition to reappear. If not then additional time lost is linked back to the original injury or illness and is considered a recurrence of the original injury or illness.

Term	Definition
Noise-induced hearing loss (NIHL)	Noise-induced hearing loss (NIHL) is hearing loss related noise exposure as assessed by an occupational physician, an audiologist or other equivalent qualified professional. Audiometric tests must be pure tone, air conduction, hearing threshold examinations, including the test frequencies 0.5, 1, 2, 3, 4, 6 kHz and 8 kHz as a minimum. A loss without recovery plus a history of noise exposure should also be regarded as NIHL. For cases meeting the above criteria, the following are considered to determine whether or not a case of NIHL meets our reporting criteria: 1. Has the person been occupationally exposed to noise (eg > 85 dB(A) TWA)? 2. Have they also sustained a standard threshold shift (see definition)? 3. Is there also non-age corrected average hearing loss over 2, 3 and 4 KHz of the audiogram, in one or both ears, of more than or equal to 25 dB as compared with audiometric zero? If the case meets these criteria, it should be recorded as a Permanent Damage Operational Illness (PDOI) if it carries a whole body impairment of ≥ 30% as per the American Medical Association guidelines 5th edition. If the hearing loss is due to age factors alone, this is not work related and should be excluded. Hearing loss due to a one-time high exposure is considered an injury. This excludes category 2 and 3 contractors.
Non-mineral waste	Non-mineral waste is primarily composed of the auxiliary materials that support our mining and mineral processing operations. This includes familiar materials such as used oil, tyres, old batteries and office waste, as well as more specialised waste such as spent pot liners from aluminium smelters. Non-mineral waste is produced in much smaller volumes than mineral waste, and is most commonly managed through recycling, off-site treatment and disposal, or placement in on-site engineered landfills.
Occupational illness	Occupational illness is an illness or disease, as distinct from an injury. One event cannot be both. An occupational illness or disease results from a workplace-related exposure of more than one shift, such as noise-induced hearing loss (NIHL) or carpal tunnel syndrome. A person can only be diagnosed once with the same occupational illness or disease, unless they have completely recovered from the original case. All occupational illnesses are reported as health incidents with health impact.
Occupied building	Occupied building refers to a building, whether permanent or temporary (portable), that's intended to be occupied. This is typically a building where at least two people do a significant portion of their work or where people may gather, even for a short time (such as crib rooms). Buildings that employees visit infrequently to do brief tasks or monitor a process are not typically defined as occupied buildings.
On-site greenhouse gas emissions	On-site greenhouse gas emissions refers to scope 1 greenhouse gas emissions, such as direct greenhouse gas emissions owned or controlled by Rio Tinto. They include fuel use, on-site electricity generation, anode and reductant use, process emissions, land management and livestock.
Operational land holdings	Operational land holdings are split into two categories: i. Land disturbed for mining, processing and related activities, including rehabilitated land. This is known as our operational footprint. ii. Land outside our operational footprint area, which may be used in the future for mining, processing and related activities, as well as other land uses. This is known as our land holding balance.
Permanent damage injury or illness	Permanent damage injury or illness refers to more than 30% body impairment, as per the American Medical Association Guidelines (5th edition), likely to last one year or more.
Permitted surface water allocation	The water volume licensed, permitted or approved to be extracted and used by the operation by a regulating authority
Plague	Plague is an infectious disease caused by the bacteria *Yersinia pestis*, usually found in small mammals and their fleas. It is transmitted between animals through fleas. Humans can be infected through: – The bite of infected fleas – Unprotected contact with infectious bodily fluids or contaminated materials – The inhalation of respiratory droplets/small particles from a patient with pneumonic plague.

Term	Definition
Process safety incidents with a major or catastrophic consequence	Process safety incidents with a major or catastrophic consequence are process safety incidents involving actual or potential unplanned or uncontrolled loss of primary containment of hazardous process material or process energy that could result in: – Chemical and physical explosions – Fires involving process material – Loss of containment of toxic, asphyxiant, corrosive, reactive, hot materials in bulk – Engulfment or physical impact from failure of bulk storage and process tankage These types of incident resulting in a single fatality or severe permanent impairment to a person (>30%), such as loss of hand or lower limb (at knee), paraplegia or multiple fatalities or severe permanent impairment to multiple people (<5 people) are seen as process safety incidents with a major or catastrophic consequence respectively.
Process	Process means the activities associated with the process of mining or refining. These include mining, milling, slurrying, washing ore, suppressing dust, treating wastewater/sewerage, generating power, operating ancillary services (such as camp, canteen, offices), irrigating rehabilitated land and wash down.
Restricted work day injury or occupational illness	Restricted work day injury or occupational illness occurs when the employee, because of the job-related injury/illness, is physically or mentally unable to perform all or any part of his or her normal assignment during all or any part of the normal workday or shift, after which the injury/illness occurs.
Rio Tinto management system	Rio Tinto management system supports standardisation of corporate and business health, safety, environment and communities management processes. The system is designed on the principles of leadership and planning, management of risk through operational control and continuous improvement through performance review as is the intent of common international standards such as ISO14001:2004, ISO9001:2001.
Scope 1 greenhouse gas (GHG) emissions	Scope 1 greenhouse gas (GHG) emissions are direct greenhouse gas emissions owned or controlled by Rio Tinto. They include fuel use, on-site electricity generation, anode and reductant use, process emissions, land management and livestock. This is one of the three scopes of greenhouse gas emissions for reporting purposes defined by the World Resource Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol: A Carbon Reporting and Accounting Standard, March 2004. Scope 1 emission factors are consistent with the Australian National Greenhouse and Energy Reporting Measurement Determination 2008 for Australian operations and for non-Australian operations from the IPCC Guidelines for National Greenhouse Gas Inventories (2006). Scope 1 emissions are presented for managed operations.
Scope 2 greenhouse gas (GHG) emissions	Scope 2 greenhouse gas (GHG) emissions are greenhouse gas emissions from the electricity, heat or steam brought in from third parties (indirect emissions). Scope 2 emission factors are consistent with the Australian National Greenhouse and Energy Reporting Measurement Determination 2008 for Australian operations. For non-Australian operations, where possible, factors sourced from electricity retailers are used. Scope 2 emissions are presented for managed operations.
Scope 3 greenhouse gas (GHG) emissions	Scope 3 greenhouse gas (GHG) emissions are other indirect greenhouse gas emissions across the value chains. These include the Scope 1 emissions from our customers of our bauxite, alumina and iron ore. Scope 3 emission factors are derived from life cycle analysis and various research studies which have systematically assessed scope 3 emissions and their materiality to Rio Tinto. Based on this assessment, scope 3 emissions deemed to be material at Group level are reported on an equity as part of our disclosures in the Annual report, sustainable development report and our submission to CDP. All other sources are immaterial to the Group inventory.
Senior management	Senior management are general managers, Group advisers and chief advisers, as well as employees in business units or in functional leadership roles who are direct reports of Executive Committee members.
Significant environmental incident	Significant environmental incident is an incident with an actual consequence rating of major or catastrophic. We measure and rate incidents according to their actual environmental and compliance impacts using five severity categories: minor, medium, serious, major, or catastrophic. Major and catastrophic environmental incidents are usually reported to the relevant product group head and Rio Tinto chief executive as soon as possible.

Term	Definition
Sustainable development	Sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". *(Our Common Future, Report of the World Commission on Environment and Development, World Commission on Environment and Development, 1987. Published as Annex to General Assembly document A/42/427, Development and International Co-operation: Environment August 2, 1987.* Available at: www.undocuments.net/wced-ocf.htm)
Surface water allocation average catchment runoff	The annual runoff volume (based on average annual rainfall) that recharges the catchment that the permitted surface water allocation is sourced from.
'Talk to Peggy' programme	'Talk to Peggy' is Rio Tinto's whistleblowing programme available to employees and third parties. It is a confidential and independent avenue for reporting concerns to Ethics & Integrity. 'Talk to Peggy' provides a mechanism to raise concerns confidentially and anonymously where permitted. A Group Incident Management System is used to capture all incidents that form part of our performance indicators whether these are reported directly through 'Talk to Peggy', compliance managers or team leaders. The report intake and hotline system are independently operated by a third party service provider. Reporting case classes are: Personnel; Business Integrity; Health, Safety and Environment; Communities; Finance; Information Security and Miscellaneous.
'Talk to Peggy' case class – Personnel	Matters involving employees (co-workers, supervisors & management) or Rio Tinto consultants, agents, contractors and suppliers that involve a personal nature concerning, but not limited to; all forms of harassment, sexual harassment and misconduct, bullying and other abusive behaviour. This also includes concerns related to unfair HR processes including recruitment practices, benefits and compensation, job assignment and performance, breaches of labour standards, issues related to payroll, remuneration, benefits and compensation and/or matters relating to inclusiveness, discrimination (age, gender, disability, diversity, nationality, race, religion, sexual orientation).
'Talk to Peggy' case class – Business integrity	Matters involving employees (co-workers, supervisors & management) or Rio Tinto consultants, agents, contractors and suppliers regarding conflicts of interest, bribes/facilitation payments, retaliation, fraud, misuse/abuse of travel and expenses, inappropriate benefits/gifts, intentional breaches of company policies or code of conduct, or any other unethical behaviour and unfair business practices. This also includes matters involving circumvention of processes and controls or breaches of policies, procedures and standards including but not limited to, competition issues, insider trading, circumvention of procurement policies, international trade and sanction breaches, unfair business practices and breaches of the acceptable use of electronic resources. Concerns raised regarding human trafficking, breaches of human rights, involvement of employees in political matters or campaigns are also classified in this category
'Talk to Peggy' case class – Health, safety and environment	Matters involving employees (co-workers, supervisors & management) or Rio Tinto consultants, agents, contractors and suppliers regarding workplace health, workplace safety and security issues, including breaches of safety laws and regulations, company policies, procedures, standards and local directives, local safety hazards, unsafe working conditions and practices and any other negative effects on employee health and safety. Security incidents and concerns and otherwise workplace conditions representing dangerous physical situations to employees and others. Environmental concerns regarding potential harm or a situation with a potential to cause actual or perceived loss or damage to people, the environment, or plant and equipment.
'Talk to Peggy' case class – Communities	Matters involving employees (co-workers, supervisors & management) or Rio Tinto consultants, agents, contractors and suppliers, concerning regarding the company's activities and relationship with communities, such as tensions, disputes, or other matters which may affect the company's reputation, partnerships and licence to operate. This category also includes failure to operate in accordance with the UN Declaration on the Rights of Indigenous Peoples (jurisdictionally applicable).
'Talk to Peggy' case class – Finance	Matters involving employees (co-workers, supervisors & management) or Rio Tinto consultants, agents, contractors and suppliers, concerning deliberately failing to keep accurate financial records, alteration, inaccurate and/or anomalies relating to financial recording and book keeping. Audit irregularities and other irregular financial practices, including the making of false financial statements internally or externally and other activities including altering or destroying company records, inventory and supply issues and concerns relating to delegated financial authority provisions.

Term	Definition
'Talk to Peggy' case class – Information security	Matters involving employees (co-workers, supervisors & management) or Rio Tinto consultants, agents, contractors and suppliers, whereby there has been a failure to comply with the Rio Tinto Data Privacy Standards and Principles, including failure to comply with local legislation applying to the collection, usage, processing, storage, disclosure and transfer of personal data. This also includes failure to process data for legitimate business purposes or related purposes, in breach of the data subject and disclosure or misappropriation of confidential information.
'Talk to Peggy' case class – Miscellaneous	Other matters not mentioned above which are of concern and which should be reported for review including observations, criticisms and suggestions.
Tier 1 resources	Tier 1 resources are low-cost, expandable resources that are profitable at all phases of the natural price cycle and bring a sustainable competitive advantage.
Total greenhouse gas (GHG) emissions	Total greenhouse gas (GHG) emissions are scope 1 GHG emissions plus scope 2 GHG emissions minus GHG emissions associated with electricity and steam exported to others minus net carbon credits voluntarily purchased from, or sold to, recognised sources.
Total greenhouse gas emissions (GHG) intensity index	Total greenhouse gas emissions (GHG) intensity index is a measure of the change in GHG emissions per unit of product compared with a baseline intensity, evaluated for each of our commodities. Commodities are products sold to the market from operations of comparable scope. Examples include mined bauxite, smelter grade alumina refined from bauxite, primary aluminium smelted from alumina, copper concentrate from mine to concentrator, and copper cathode from mine to refinery. Our total greenhouse gas emissions intensity target is evaluated as the percentage difference between actual total greenhouse gas emissions in the target year and the equivalent emissions expected from the target year production at the baseline year emissions intensity for each commodity. Any business or operation, such as Rio Tinto Exploration, that does not produce a saleable product is excluded from the target assessment. Developing operations are included in the assessment once production exceeds 60% of nameplate production in a reporting year. We index our performance relative to 2008 as a baseline year.
Use-of-force (UOF)	Use-of-force (UOF) refers to the lawful and proportional amount of force (effort) required by authorised security personnel to make an unwilling suspect or person comply to achieve a legitimate security objective. It involves the use of various means and techniques of force that are applied starting with the least to the most force. The UOF is governed by country laws and is usually authorised in a progressive series of actions, referred to as a "use of force continuum", that make provision for the use of a lesser, non-lethal and graduated force options.
Value add	Value add refers to the value that a business adds to the materials and services it has bought. It is equivalent to the sum of all labour payments, payables to governments, returns on capital invested in operations – including interest payments, profits paid out to shareholders, and money held in the business for future investment and to replace depreciated assets – and non-government payments. This figure includes management costs for the calendar year.
Water risk	Water risk is one with the potential to have a high or critical impact on a managed operation with consequences on production, conformance/compliance, reputation, community or environment. Water risks require proactive management by the specific managed operation.
Wellbeing/wellness programme	Wellbeing/wellness programme is a proactive, preventive approach to help people change their lifestyle to move toward a state of optimal health: a balance of physical, emotional, social, spiritual, and intellectual health. It's an active process of enhancing awareness and skills, changing behaviour and values, and creating an environment that supports good health practices and increases people's abilities to enjoy a balanced and fulfilling life.