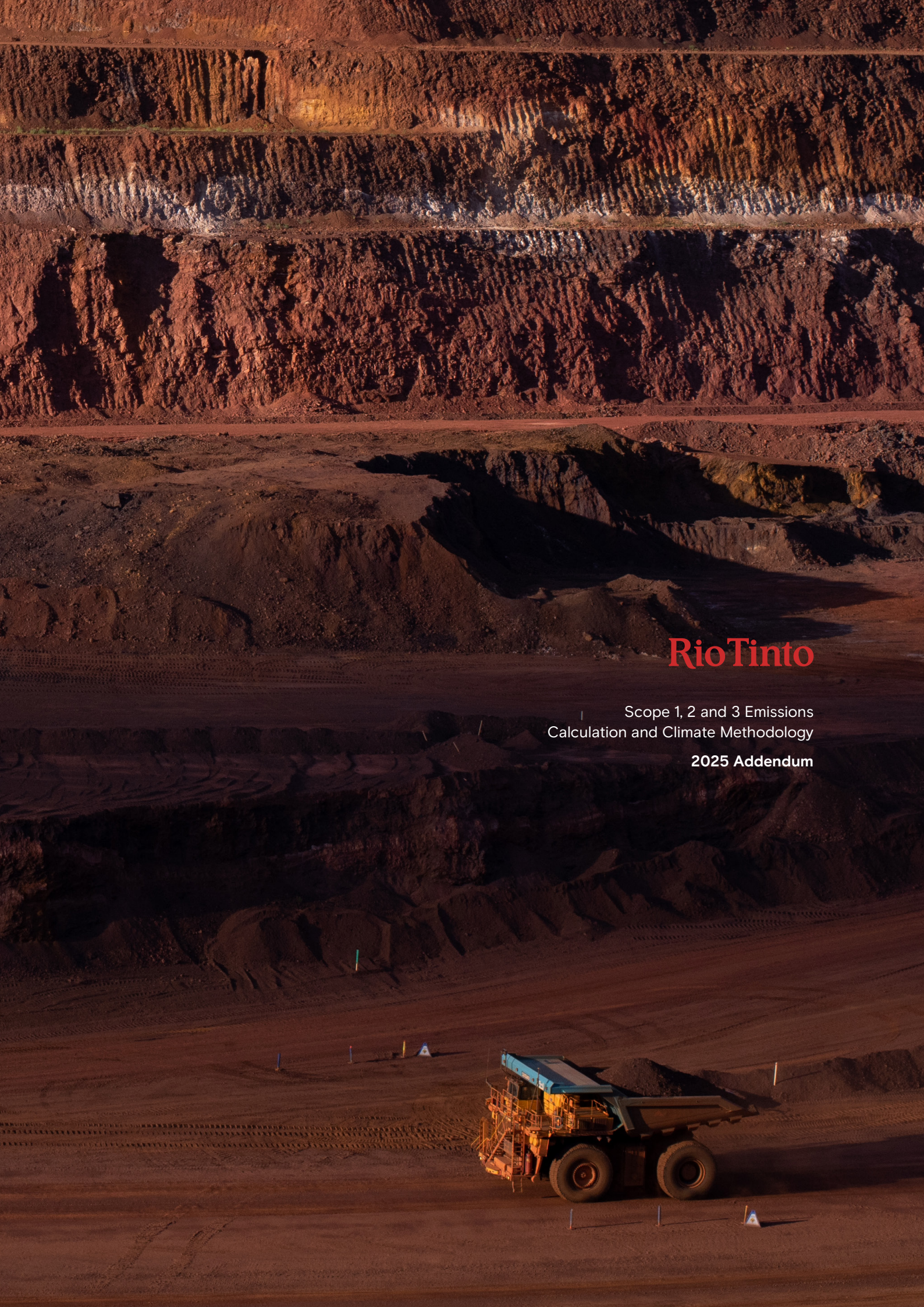

Rio Tinto

Scope 1, 2 and 3 Emissions Calculation and Climate Methodology

2025 Addendum

Many of our operations are located on land and waters that have belonged to Indigenous and land-connected Peoples for thousands of years. We respect their ongoing deep connection to, and their vast knowledge of, the land, water and environment. We pay our respects to Elders, both past and present, and acknowledge the important role Indigenous and land-connected Peoples play within communities and our business.

Contents

On the cover: Hope Downs 4 iron ore mine, Australia.

Our 2025 reporting suite

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About this document

Our *Scope 1, 2 and 3 Emissions Calculation and Climate Methodology* is a technical guide to our greenhouse gas (GHG) emissions reporting and climate-related disclosures. It provides additional information to underpin the integrity of the reported data.

In 2025, we made minimal changes to the foundations of our Scope 1, Scope 2 and Scope 3 calculation methods. As such, for 2025 we have produced an Addendum to our *2024 Scope 1, 2 and 3 Emissions Calculation and Climate Methodology report,* outlining the key changes applied during the year, as the majority of the technical accounting detail from 2024 is still current and relevant. This 2025 Addendum should be read in conjunction with the 2024 *Scope 1, 2 and 3 Emissions Calculation and Climate Methodology*.

Our emissions and climate reporting

In 2024, we integrated climate-related disclosures into our *Annual Report*, aligning our reporting with the International Sustainability Standards Board's (ISSB) International Financial Reporting Standard (IFRS S2) on climate-related disclosures.

In 2025, our disclosures have been prepared in accordance with Australian Accounting Standards Board's (AASB) S2 Climate-related Disclosures, issued by the AASB and adopted under the Corporations Act 2001 (Cth).

Our emissions reporting complies with the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD)'s *Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) (2015), GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2013) and the Technical Guidance for Calculating Scope 3 Emissions (version 1.0)*. These documents are available at ghgprotocol.org. The GHG Protocol documents are the most recognised and widely used global standards and guidance for GHG reporting.

Scope 1 emissions are direct GHG emissions from facilities fully or partially owned or controlled by Rio Tinto. They include GHG emissions from fuel use, onsite electricity generation, anode and reductant use, process emissions, land and livestock management. Scope 2 emissions are GHG emissions from the electricity, heat or steam brought in from third parties (indirect emissions). Scope 3 emissions are indirect GHG emissions generated as a result of activities undertaken across the value chain, either upstream or downstream of our operations.

Emissions are reported using the equity share approach, which attributes GHG emissions according to the company's economic interest in each asset. Where ownership changes occur during the reporting year, emissions are apportioned to reflect the actual equity share over time. For consistency in tracking progress against targets, Rio Tinto reports baseline emissions on an adjusted equity basis. This method applies our current economic interest (equity share) to all operational emissions, standardised to current corporate and asset ownership back through to the 2018 base year (adjusted equity).

In addition to the equity share approach, the GHG Protocol lists 2 types of control approach methods: operational control and financial control. Most of Rio Tinto's health, safety and environmental reporting is prepared under the operational control approach, where Rio Tinto managed operations are reported on a 100% basis. Non-managed joint ventures, wherein assets are not under Rio Tinto's operational control, are excluded from our reporting boundary.

We also report energy data, including renewable energy and electricity source information, relating to our operations. The energy approach is consumption-based, with energy consumed by others excluded.

Energy and emissions are detailed in the *2025 Sustainability Fact Book*. This includes the disclosure of Scope 1 emissions by GHG type, dual market-based and location-based Scope 2 reporting, and biogenic CO_2 emissions from use of renewable fuels. Scope 1 and 2 reporting this year is split by larger assets and asset groupings, and by product group.

Changes from 2024

Notable changes in our 2025 reporting include the adjustment of baseline emissions to account for the following:

- Rio Tinto's aquisition of Arcadium Lithium. This includes Olaroz (66.5%), Sal de Vida, Cauchari, Salar Del Hombre Muerto in Argentina, Mt Cattlin in Australia, James Bay in Canada.
- The joint venture agreement between Rio Tinto and Sumitomo Metal Mining relating to the Winu copper-gold project, reducing equity from 100% to 70%.
- Queensland Alumina Limited (QAL) is a tolling company and is 80% owned by Rio Tinto and 20% owned by Rusal. Rio Tinto is currently utilising 100% of the tolling capacity at QAL. Accordingly, in 2025, reporting includes 100% of QAL's emissions. This treatment is in line with our reporting of earnings and reflective of Rio Tinto's proportion of tolling capacity in 2025.

These changes have shifted the 2018 baseline to be 36.7 Mt CO_2e.

Scope 1 emissions and energy conversion factor sources have remained similar. Where local regulatory reporting has changed, Rio Tinto has sought to align corporate and local reporting to those requirements. Data sources have evolved to incorporate changes to the asset portfolio and low emission fuels, as well as abatement trials or projects, or both.

Scope 2 emissions factor sources have remained the same, and as per the change to dual-market and location-based reporting disclosed in 2023. There has been some additional renewable energy procurement, increasing the amount of renewable electricity claims in the portfolio, as described later in this document.

Our GHG metrics and targets

Today, our primary GHG reduction metrics for Group emissions reporting include Scope 1 emissions and Scope 2 emissions using the market-based methodology. This methodology enables a more accurate representation of commercial decisions, such as electricity purchase contracts, where the rights to the energy attributes and zero emissions sources are secured.

The emissions targets are set on the base year of 2018 (1 January to 31 December). Our baseline is adjusted annually to remain comparable over time and to reflect our current portfolio. We exclude reductions achieved by divesting assets and adjust emissions associated with acquisitions or changes in equity.

The 2025 Scope 1 and 2 emissions and energy data has been assured by KPMG as part of our annual assurance process (the assurance statement can be found in our *2025 Annual Report*).

Scope 1 and 2 reporting

In 2025, we continue to report GHG emissions in alignment with the Greenhouse *Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition, 2015)*, applying both the equity share and operational control approaches. Building on prior methodology, we now provide disaggregated reporting of Scope 1 and Scope 2 GHG emissions at the major asset or asset grouping level, as published in our 2025 *Sustainability Fact Book*. This enhancement improves transparency, enables more granular performance analysis across our portfolio, and shows comparability across the different reporting methods.

Determining the emission factors at our operations

The approach for determining which emission factor source is appropriate remains unchanged from 2024. Where Rio Tinto and joint venture partners have exclusive contractual claims over energy attributes, zero market-based emissions are reported through the purchase and surrender of energy attribute certificates or through contractual agreements. Where certificates are not purchased, residual mix factors are sourced from reputable registries such as the European Association of Issuing Bodies (AIB) for applicable countries, and Green-e for US grids. IEA country-based Scope 2 factors are applied where renewable energy markets do not exist. In Australia, state-based residual mix factors continue to be used for assets connected to the National Electricity Market, calculated using Australian Energy Market Operator (AEMO) data and assured by KPMG. For Canadian operations, Quebec continues to use the residual mix factor published by Hydro Quebec.

Refer to the *2024 Scope 1, 2 and 3 Emissions Calculation and Climate Methodology* for a comprehensive list of emission factors used.

Energy reporting

Within the *2025 Sustainability Fact Book*, energy tables are consistent with the Global Reporting Initiative (GRI) methods.

Definitions within standards and guidelines still vary with regard to what qualifies as renewable energy, particularly in the case of electricity, and our approach remains focused on transparency and comparability across frameworks.

Rio Tinto's reporting of electricity as energy remains broadly aligned with the market basis for emissions reporting. Renewable electricity generated and consumed includes the generation (with consumption) of renewable electricity at Rio Tinto. Where electricity is sold to third parties for use, it is excluded from energy reporting.

This year, as per the proposed updates to the IFRS S2 Climate-related Disclosures guidance, arising from revisions to SASB standards, the definition of renewable energy has been broadened. The revised guidance includes energy purchased under power purchase agreements (PPAs) supported by renewable energy certificates (RECs) or guarantees of origin (GOs), direct contractual arrangements for renewable electricity supply, renewable electricity from self-generation, and renewable energy consumed from biomass-based fuels. Although these revisions have not yet been formally adopted, we have updated our reporting to reflect this definition, as it provides clearer alignment with the GHG Protocol Scope 2 Guidance on what is considered renewable energy under a market-based method, as well as with our existing methodologies.

Rio Tinto continues to generate significant hydroelectricity through Énergie Électrique power stations in Quebec and the Kemano power station in British Columbia. The primary users of this electricity remain our aluminium and alumina operations in Canada. In the Pilbara region, renewable energy generation continues to increase, with the Gudai-Darri solar plant in operation and a 75 MW solar PPA signed to further support the region's energy needs. Additional details on renewable electricity milestones in 2025 can be found in the Climate section of our *2025 Annual Report* under "Action to reduce our emissions" (Progress in 2025).

Purchased electricity reporting is split into categories. Where renewable energy attributes are conveyed through PPAs, this is reported as contracted renewable electricity purchased and consumed. In 2025, RECs have been surrendered for Richards Bay Minerals, Oyu Tolgoi, ISAL, Weipa bauxite, Kennecott, and Resolution Copper. Energy attribute certificate agreements enable zero-emissions Scope 2 reporting under market-based reporting for Escondida and QIT Madagascar Minerals. Grid electricity purchased without renewable attribute contracts remains classified as mixed-source electricity. Grids with renewable penetration above 90%, such as Quebec, are reported as predominantly renewable.

Renewable energy from biomass-based fuels continues to expand, with a successful initial trial using biopellets at Yarwun in 2025. The Évolys biocarbon plant was also commissioned during the year, further supporting the transition to lower-carbon energy sources. Other non-renewable energy sources remain reported as in prior years.

For definitions of key terms relating to renewable energy contracts, see our Sustainability Glossary at riotinto.com/en/invest/reports/sustainability-report

Emissions under limiting regulations

Many of our assets have carbon costs associated with their emissions. They report to governments in several countries, including Canada, Australia, the US, Europe, New Zealand and South Africa.

The following emissions-limiting regulations predominantly cover process emissions and stationary fuels. They are estimated to cover 82% of our gross global Scope 1 emissions, particularly from our aluminium smelters, alumina refineries and iron ore mines.

Scheme	Country, Province/State	% of Scope 1 emissions covered
Australian Safeguard Mechanism (National Greenhouse and Energy Reporting Act)	Australia	51%
New Zealand Emissions Trading Scheme (Climate Change Response Act)	New Zealand	2%
Quebec Cap-and-Trade System (Quebec Environmental Quality Act)	Canada, Quebec	18%
California Cap-and-Trade Program (California Global Warming Solutions Act)	US, California	2%
European Union Emissions Trading Scheme (EU ETS)	Europe	1%
Alberta Technology Innovation and Emissions Reduction (TIER) Regulation (Emissions Management and Climate Resilience Act)	Canada, Alberta	0.3%
B.C. Output-Based Pricing System (British Columbia Carbon Tax Act)	Canada, British Columbia	3%
Newfoundland and Labrador carbon pricing (Newfoundland and Labrador Management of Greenhouse Gas Act)	Canada, Newfoundland and Labrador	2%
South Africa carbon tax (South Africa Carbon Tax Act)	South Africa	1%
Total		82%

Note: Total has been calculated on unrounded numbers.

Carbon credits and targets

Our approach to carbon credit accounting remains unchanged from 2024. Carbon credits retired as offsets represent verified reductions or permanent sequestration of GHG emissions outside the Rio Tinto reporting boundary, achieved through actions undertaken by Rio Tinto or third parties on our behalf. Each credit corresponds to 1 tonne of CO_2e and is permanently retired to ensure it cannot be reused. Credits must be issued by a national government or an internationally recognised body and are applied to a single reporting period only.

We will continue to retire Australian Carbon Credit Units (ACCUs) that meet our integrity and quality criteria, including those required under the Safeguard Mechanism, and use these to calculate net emissions.

This process aligns with the GHG Protocol Mitigation Goal Standard and our accruals-based approach, which matches emissions obligations with credit retirements during the reporting year. Where voluntary retirements occur, these will be completed within the calendar year or prior to any associated claims.

Final safeguard liability and surrendered ACCUs for financial years 2024-2025 were less than the planned reported values, therefore the net emissions number and carbon credits have been restated. See our 2025 Sustainability Fact Book for more detail on our carbon credit retirement.

Scope 3 reporting methodology

Category 10: Processing of sold products – iron ore

Our approach to estimating emissions from processing iron ore into steel remains unchanged from 2024. Processing iron ore into steel continues to be the largest contributor to our Scope 3 emissions, primarily through the blast furnace/basic oxygen furnace (BF/BOF) route, which accounts for the vast majority of our customers' steelmaking.

We use an internally developed energy and mass balance model to estimate emissions, applying assumptions representative of typical steelworks operating parameters, and coke and metallurgical coal specifications. These assumptions are validated against research and industry publications and updated as required to ensure accuracy and continuous improvement.

Processing emissions from iron ore have gone up compared to 2024 due to an increase in sold products.

Item	Range (by product)	Example (Pilbara Blend™ fines)	Rio Tinto portfolio	Description
Iron ore production (million tonnes, equity share)				
2025 iron ore shipments[1]		108.3	295.6	We produce a range of iron ore products from our Pilbara and Iron Ore Company of Canada operations. Data sourced from Rio Tinto shipments data for the year ended 31 December 2025.
Processing iron ore to steel (million tonnes)				
2025 attributed steel production		66.6	182.5	By analysing the different characteristics of our products including iron grade, minor elements and moisture, we have estimated the steel production attributable to our iron ore.
Processing of iron ore to steel – emission factor (tonnes CO_2e per tonne steel)				
Emissions associated with the production of coke	0.12 – 0.17	0.16	0.16	Emissions are estimated using representative grades of metallurgical coal and typical coke oven efficiencies.
Emissions associated with ore sintering	0.04 – 0.64	0.55	0.44	The sinter plant is primarily used to agglomerate fines ore. Lump and pellets are screened, with much of this product bypassing the sinter plant.
Emissions associated with the blast furnace	1.31 – 1.54	1.36	1.4	The energy required in the reduction of iron ore is the largest emissions contributor. Variations in these emissions are modelled relative to the iron content and gangue components of the ore.
Emissions associated with final processing in steel converter (BOF)	0.21	0.21	0.21	Emissions in the steel plant are reasonably consistent across our products.
Emissions per tonne of attributable steel (tonnes CO_2e per tonne liquid steel)		2.28	2.18[1]	Emission factors sourced from our energy and mass balance modelling of iron ore processing. * Includes contribution from direct reduction pellets used in the direct reduced iron and electric arc furnace process.
2025 iron ore value chain emissions (million tonnes CO_2e, equity share)				
Total Scope 3 GHG emissions from processing of iron ore (Mt CO_2e equity share)		151.8	398.4	Total estimated emissions from processing of our iron ore to produce steel. Calculated on a product basis by applying the specific product emission factors to the 2025 sales volumes of each product.

1. Iron ore shipments are net of unsold product in portside trading facility.

Category 10: Processing of bauxite and alumina

The processing of bauxite and alumina continues to be the second largest contributor to our Scope 3 emissions. The methodology for calculating Scope 3 emissions from processing bauxite and alumina remains unchanged from 2024. We continue to calculate our Scope 3 emissions looking at the supply chain of each of our bauxite and alumina operations, and accounting for the Scope 1 and 2 emissions of our purchases and sales, upstream and downstream. Purchased bauxite and alumina are reported under Scope 3, Category 1, and sales under Category 10.

Calculations still use site-specific data and CRU Group regional factors, with boundaries extending to the customer's primary smelter up to the first cast product. Further processing and off-site co-product treatment remain excluded. Alumina hydrate continues to be treated as a final product.

The approach aligns with International Aluminium Institute guidance and excludes suppliers' and customers' Scope 3 emissions. Key parameters and conversion ratios are unchanged; CRU and site data have been refreshed for 2025. Volumes are based on bill of lading records, consistent with published production data.

Bauxite and alumina processing emissions have gone up due to increases in bauxite and alumina sales.

Below are the quantities, with examples of the conversion factors and intensities used for the reporting, in an equivalent disclosure to previous Scope 3 reporting. For comparison, in 2024, the bauxite sales to third parties totalled 41.8 Mt with 0.55 Mt of bauxite purchased. Alumina sales totalled 2.5 Mt with 1.4 Mt purchased.

Customers are matched to the CRU asset name, and customer-specific emission factors were used when available. The table below shows an average of the CRU emission factor used; it also corresponds to the factor used when the customer facility is unknown. This table is provided to demonstrate how the calculations work.

Item	Calculation steps	Rio Tinto portfolio	Description
2025 sales (million tonnes, equity share)			
Bauxite sales	A	43.7 Mt	Sales of bauxite to third parties
Alumina sales	B	3.2 Mt	Sales of alumina to third parties
Conversion factors			
Bauxite : alumina	C	2.69	International Aluminium Institute, Life Cycle Inventory (2019 data published 2022)
Alumina : aluminium	D	1.92	International Aluminium Institute, Life Cycle Inventory (2019 data published 2022)
Processing-related emission factors (tonnes CO_2e per tonne of input material) (average data)			
Bauxite-to-alumina intensity (t CO_2e/t alumina)	E	1.21	CRU Group dataset (2024), global weighted average (excluding Rio Tinto assets)
Alumina-to-aluminium intensity (t CO_2e/t aluminium)	F	10.70	CRU Group dataset (2023), global weighted average (excluding Rio Tinto assets)
2025 aluminium value chain emissions (million tonnes CO_2e)			
Emissions from processing of bauxite sales	A ÷ C x E + A ÷ C ÷ D x F	120.3 Mt CO_2e	Emissions associated with processing of bauxite to alumina and then further to aluminium
Emissions from processing of alumina sales	B ÷ D x F	14.9 Mt CO_2e	Emissions associated with processing of alumina to aluminium
Total Scope 3 GHG emissions from processing of bauxite and alumina (Mt CO_2e equity share)		135.2 Mt CO_2e	Total estimated emissions from processing of bauxite and alumina This is reported in Category 10
2025 purchases (million tonnes, equity share)			
Bauxite purchases		0.95 Mt	Purchases of bauxite from third parties
Alumina purchases		1.49 Mt	Purchases of alumina from third parties
Total Scope 3 GHG emissions from purchased bauxite and alumina (Mt CO_2e equity share)		0.90 Mt CO_2e	Total estimated emissions from purchased bauxite and alumina This is reported in Category 1

Category 10: Processing of other sold products

Due to the acquisition of Arcadium Lithium assets in 2025, we have added Scope 3 Category 10 emissions for the processing of spodumene concentrate into carbonates and hydroxide chemistries, as needed in battery cells. This is included in the Category 10 “Other” grouping.

There have been no changes to the factors and methods used to calculate Scope 3 Category 10 emissions for the remaining sold products, which include salt, molybdenum, titanium dioxide feedstocks, copper concentrate and other mineral products. The methodology has been reviewed and remains appropriate for 2025.

Category 1, 2 and 3: Purchased goods, services, capital goods and fuels

The methodology for calculating Scope 3, category 1, 2 and 3 emissions remains aligned with the GHG Protocol Value Chain documents, which provide several calculation approaches with varying levels of specificity. Rio Tinto continues to prioritise quantity-based methods (supplier-specific, hybrid or average-data) for goods with significant processing emissions, while applying spend-based methods for the remaining categories.

The 2024 approach used spend-based emission factors mapped against internal purchasing classifications. EXIOBASE remains the primary source for spend-based factors, supplemented by UK Government and United States Environmental Protection Agency databases for mining-specific categories to improve representativeness.

For 2025, the methodology is consistent with the 2024 approach, with the following refinements implemented.

- Emission Factor Updates: Full alignment of spend-based factors to EXIOBASE and other annual updates in line with published UK and Australian scope 3 factors.
- Currency and Inflation Adjustments: Use of country specific inflation data (instead of regional average) for countries not covered in the original EXIOBASE dataset.
- Scope 3 Guidance Alignment: No significant changes have been made to the exclusions list beyond those implemented in 2024. Taxes remain fully excluded from the emissions inventory.
- 2024 data was restated this year, correcting errors in applying currency conversion rates, tax and margins. The previous data was materially inflated due to this error.

Category 3 (fuels and energy-related activities) continues to be reported using the average-data method, based on quantity information collected under Scope 1 and 2 reporting. Emission factors remain representative of full upstream life cycle emissions where possible.

Categories 4 and 9: Upstream and downstream transport and distribution

The methodology for Categories 4 and 9 remains largely consistent with 2024. For Category 4, emissions from managed voyages are calculated using actual fuel consumption data collected at voyage completion, while non-managed voyages predominantly use the distance-based method with Energy Efficiency Operating Index emission factors from the IMO Fourth GHG Study. Container, road, rail and air transport emissions apply UK Government Scope 3 factors. Category 4 also includes inbound raw materials used in Rio Tinto’s value chain and the remaining spend-based emissions from handling, storage and warehousing activities at ports and distribution centres. Category 9 emissions are calculated using the distance-based method, with distances derived from shipping-specific commercial data and supplemented by port-to-port or city-to-city estimates. A small portion of Category 9 emissions are estimated using the average-data approach, using vessel class intensities derived from emissions reported in 2024.

Bulk marine shipping of iron ore, bauxite and alumina remains the largest contributor, accounting for approximately 5.6 Mt CO_2e under Category 4 and 2.4 Mt CO_2e under Category 9. The increase in emissions compared to 2024 is proportionate to the increase in shipped volumes for these bulk commodities. The remaining emissions are attributable to other products, in addition to containerised shipping, road and rail cargo movements. No changes have been made to exclusions or reporting boundaries.

Rio Tinto

Rio Tinto plc
6 St James's Square
London SW1Y 4AD
United Kingdom

Rio Tinto Limited
Level 43, 120 Collins Street
Melbourne VIC 3000
Australia