RioTinto

# Tackling emissions across our value chain

## We produce materials essential for human progress

| Al | Fe | Cu | $TiO_2$ | B |
|---|---|---|---|---|
| Aluminium | Iron Ore | Copper | Titanium Dioxide | Borates |

**We do not mine coal, or extract oil or natural gas.**

## There are three ways to classify GHG emissions:

**Scope 1**
- Company facilities
- Mobile equipment including truck fleets & rail
- Self-generation of heat & electricity
- Process emissions

Direct emissions

**Scope 2**
- Purchased electricity, steam heating and cooling

Indirect emissions

**Scope 3**
- Emissions across the value chain
- Processing & use of sold products
- Transportation of products to market
- Purchased good and services

Indirect emissions

## The challenge of setting scope 3 targets

### We don't produce fossil fuels

Some companies can switch from coal and oil to natural gas and renewables. We don't produce fossil fuels – so we can't "switch" our portfolio to lower carbon options, or rely on the natural decline of reservoirs.

### Iron ore is essential to steel

Customers could reduce carbon emissions of steel production (e.g. by using carbon capture and storage, or replacing coking coal with hydrogen in the long-term) but there is no substitute for iron ore.

### Our ability to impact these emissions is limited

While we will seek to influence the decarbonisation pathways of our customers, we have very limited control over the emissions themselves or future measures to abate them.

> "Few other(s) are able to measure Scope 3, let alone set targets."
>
> Task Force on Climate-related Financial Disclosures, 2019 Status Report

## Potential for scope 3 reduction **varies by commodity**

| Carbon in product sold | | No carbon in product sold | |
|---|---|---|---|
| **Coal, oil and natural gas** | **Metallurgical Coal** (for steel production) | **Bauxite, alumina & iron ore** | **Copper & primary aluminium** |
| Companies can reduce scope 3 emissions by changing their portfolio mix and allowing reservoirs and reserves to deplete | Companies can reduce scope 3 emissions if their customers use CCS | Higher energy needs for processing, including into primary metal, but since there is no carbon in the product sold, scope 3 reduction relies on customers' decarbonisation pathways – which are currently limited | Lower energy needs for processing into end products, and as there is no carbon in the metal, scope 3 emissions risk is limited |
| Potential for substitution | Potential for substitution | Potential for substitution | Potential for substitution |
| Renewables in the short term | Hydrogen in the long term | Some by scrap (limited by availability & quality) | Low as these metals are essential to the low-carbon transition |

Our portfolio

## Partnering to **reduce emissions across our value chain**

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BAOWU

清華大学 Tsinghua University

**China Baowu Steel Group and Tsinghua University**

Working together to develop and implement new ways of reducing carbon emissions and improving environmental performance across the steel value chain.

ELYSIS

The world's first technology to remove direct carbon emissions from the aluminium smelting process. Launched in partnership with Alcoa and with the support of Apple and the governments of Canada and Quebec.

## Our scope 1 and 2 emissions

31.8 Mt $CO_2e$[1]

| Aluminium (Pacific) | Bauxite & Alumina | Aluminium (Canada) | Energy & Minerals | Copper & Diamonds | Iron Ore | Other |
|---|---|---|---|---|---|---|
| 10.3 | 6.6 | 5.1 | 3.7 | 3.3 | 2.6 | 0.2 |

(Mt $CO_2e$)

## Since 2008, we have:

- Reduced absolute emissions **46%**[2, 3]
- Reduced emissions intensity **29%**[3]

## Today:

- **76%** of our electricity is from **renewable sources**[3]

1. New 2018 equity-baseline for 2030 targets: managed and non-managed assets
2. 18% excluding divestments
3. Managed operations only

## A look ahead

**Net zero ambition** by 2050

Reduce absolute emissions **by 15%**

Reduce emissions intensity **by 30%**

**our 2030 targets**

Overall, **carbon neutral growth**

+

**Spend $1 billion** on climate-related projects by 2025

**riotinto.com/climatechange**