Assessing ASX200 alignment to the 1.5°C climate goal

DECEMBER 2022
ACKNOWLEDGEMENT OF COUNTRY

We acknowledge and pay respect to the Traditional Owners and Elders – past and present – of the lands and waters of the people of the Kulin nation on which the Climateworks Centre office is located, and all of the Elders of lands across which Climateworks operates nationally. We acknowledge that sovereignty was never ceded. More information.
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Introduction

Climateworks Centre has defined a detailed assessment approach to provide insights on ASX200 corporates’ commitments and assess their alignment against the goals of the Paris Agreement, that is, aiming to limit global warming to 1.5 degrees Celsius (1.5°C).

This assessment is based on a specific analytical output developed by Climateworks: Decarbonisation Futures ‘1.5C All-in’ scenario (DF ‘1.5C All-in’) (Climateworks Centre, 2020). According to this scenario, limiting warming to 1.5°C would mean capping global cumulative emissions since 1 January 2020 to 336Gt.¹ For Australia, this can translate into a 74% emission reduction in 2030 compared with 2005 and achieving net zero by 2035.

This transformation is likely to require the replacement of emissions intensive technologies with zero to low emissions alternatives at scale, which requires large investments in all sectors and capital flows towards activities aligned with a 1.5°C pathway. This can be supported by the use of quantitative tools to support the process and facilitate the transition, ensuring that the emission reduction targets and their implementation are fairly assessed. Indeed, not every company can decarbonise at the same rate and this will depend on a variety of factors including cost and readiness of solutions in each sector.

This methodology is a companion document to the Climateworks Centre (2022) highlights report: 1.5°C climate goal: How does the ASX200 stack up in 2022?

This document provides an explanation of:

+ The analysis scope and data taken into consideration
+ Overview of Climateworks Centre (2021) best practice principles for 1.5°C aligned net zero commitments.
+ Overview of Climateworks Centre (2020) DF ‘1.5C All-in’.
+ Translation of DF ‘1.5C All-in’ scenario into company-specific 1.5°C trajectories.
+ Basis of the 1.5°C alignment assessment.

The analysis covered in this document refers to a quantitative assessment of corporate commitments at a point in time based on publicly available data and it therefore does not provide a comprehensive view of the credibility of corporate climate strategies to decarbonise, nor did it involve detailed research into the actions or investments of individual companies.

¹ Understood as a 67% chance of remaining within that carbon budget (IPCC 2018).
Analysis scope and data gathering

The ASX200 index comprises the 200 largest stocks listed on the Australian Securities Exchange (ASX) by float-adjusted market capitalisation. It captures some of Australia’s high-impact companies, playing an important role in meeting decarbonisation objectives and therefore limiting global warming.

The analysis covers the 187 companies listed on the ASX200 in December 2021 which have operations in Australia. Data captured for these companies reflects publicly disclosed information as of 31 March 2022.

The analysis:

- Does not take into consideration corporate commitments after the cut-off date of 31 March 2022.
- Only takes into consideration public commitments based on absolute emissions reduction.
- Does not consider companies without operations in Australia as their emissions cannot be assessed against DF ‘1.5C All-in’ scenario.
- Assesses companies belonging to the same group as one entity even if listed separately on the ASX200 as emission reduction targets are usually set at a group level and that information on emissions is not usually reported separately for the subdivisions.

Data gathering and validation

The current emissions levels and intended reductions of each company are required to measure the alignment of their commitments with a specific warming outcome.

At a company level, we have taken into consideration:

- Available data related to their current absolute emissions specific to Australia.
- Available data related to their absolute emission reduction targets that apply to their emissions in Australia as forward-looking projections.

As noted above, data was collected from information publicly disclosed as of 31 March 2022. Information was sourced from annual and sustainability reports, companies’ websites, and Task Force on Climate-related Financial Disclosures (TCFD) reports. Climateworks used data provided by the Australian Council of Superannuation Investors (ACSI) collected as part of their annual ESG assessment of the ASX200. S&P Global Sustainable1 provided emissions data supporting the scope 3 emissions assessment.
Current absolute emissions specific to Australia

Emissions by scope


Current absolute emissions of companies were collected for scope 1, 2 and 3. When any of these was not reported, they were recorded as ‘no disclosure’.

When emissions were reported using both operational control and equity share approaches, figures based on the former approach were used. When targets were made on an equity share basis, they were converted to reflect the reduction on the basis of operational control.

When location- and market-based scope 2 emissions were provided, location-based was chosen for the assessment. Market-based scope 2 emissions were only used when the target assessed specifically applied to the market-based emissions.

Corporates are usually requested to report on their operational emissions but disclosing and reporting scope 3 emissions is increasingly recommended by different standards and frameworks, and by investors more generally. As scope 3 reporting is inherently more complex, it was common to see companies reporting scope 3 emissions from only a select few scope 3 categories from the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (e.g. business travel, purchased goods). In these instances, companies were considered as ‘partially’ reporting scope 3.

When the coverage of the scope 3 emissions disclosed was unclear, an estimate was determined based on the emissions figures obtained, derived or estimated by S&P Global Sustainable.

For financial institutions and other similar entities, their reported scope 3 emissions were considered as ‘partial’ disclosure if they did not include financed emissions (investment and/or lending portfolio emissions). Royalty companies were considered in the same category as banks.

Emissions by geographical location

Emissions broken down by scope 1, 2 and 3 are required to be Australia-specific to allow for quantification of the potential emissions reductions implied by corporate commitments within Australia.

When a company operates in and outside Australia and it does not report its scope 1, 2 and 3 emissions resulting from its operations in the country, the following approaches were used to determine or estimate corporates’ current Australia-specific emissions, in order of priority:

- Consulting the Clean Energy Regulator’s National Greenhouse and Energy Reporting (NGER) database.
- Estimating current emissions based on the company’s historical business activities (e.g. production volume breakdown by country, revenue breakdown by country, locations of operations, etc) if readily available from public annual reports.
- If no information was readily available to accurately estimate these, they were not determined and emissions reduction implied by the company’s commitments was not quantified (see ‘Quantification of emissions reduction commitments’ for more details).

The implications of the Australia-specific approach described above on scope 3 emissions are that imported and exported emissions are both excluded from the quantification of emissions reductions that can be achieved by corporate scope 3 commitments.

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2 Climate Action 100+, Science Based Targets initiative, Greenhouse Gas Protocol, as well as Task Force on Climate-Related Financial Disclosures (TCFD), Glasgow Financial Alliance for Net Zero (GFANZ), among others.

3 Consideration in line with the Greenhouse Gas Protocol’s Corporate Value Chain (Scope 3) Accounting and Reporting Standard.
Emissions breakdown

This data gathering process also involved capturing the breakdown of emissions by sector of the companies on the ASX200, i.e. based on the sectors in which they operate and therefore emit. See further detail below on how these sectors were identified and allocated for each company.

Two emissions breakdowns were determined for each company, differentiating between (a) Australia-specific scope 1 and 2 emissions, and (b) Australia-specific scope 3 emissions. When these were not disclosed by a company, they were estimated by, in order of priority:

- Using readily available additional information publicly disclosed by the company, e.g. annual and sustainability reports, companies’ websites, and TCFD reports.
- Using readily available public information from Carbon Disclosure Project (CDP) reports and official government websites, such as NGER.
- Using global emissions breakdown disclosed by the company.
- Referring to the emissions breakdown of a company with similar operations.
- Referring to journal articles and sectoral reports detailing the typical emissions breakdown of a company operating in any particular sector.

When there was insufficient readily available information to estimate the scope 3 sources and emissions breakdown of a company, these were not determined or included in the assessment.

Absolute emission reduction targets

This analysis only considers absolute emissions reduction targets. The use of absolute emissions reduction targets preserves a direct link to the company-specific performance. Given the large number of companies within the scope of this analysis and the diverse nature of business activities in which the companies are involved, it provides a common measure applicable to all. The underlying principles for only assessing absolute targets are largely aligned with the Science Based Targets Initiative (SBTi) recommendations (SBTI, 2017).

The following targets were not assessed.

- Emissions intensity targets based on a physical metric because these are mostly used by companies in the commodity market only and do not necessarily lead to net emissions reduction if the underlying physical metric increases more than the decrease in emissions.
- Emissions intensity targets based on an economic metric because economic metrics are volatile and therefore considered less robust.
- Renewable energy targets because these can be met via various methods such as physically deploying solar panels, procuring power purchase agreements and renewable energy certificates many of which do not necessarily lead to additionality and actual emissions reduction.
- Emissions reductions linked to a specified mass of greenhouse gas (e.g. ‘reduce emissions by 1 million tonnes by 2035’) without a baseline year because such targets are not transparent about changes in emissions performance (i.e. the increase in emissions for the target period may be larger than the target mass of reduction).
Climateworks’ best practice principles for 1.5°C

Drawing on two years of analysis of corporate commitments, Climateworks Centre (2021) Corporate action for 1.5 degrees: Best practice for Australian company net zero commitments report presents four best practice principles to create 1.5°C aligned net zero commitments. These best practice principles are:

- a net zero commitment by or before 2050.
- at least one medium-term target that is appropriate and ambitious.
- addressing operational, value chain, customer and financed emissions.
- demonstrable, tangible near-term actions.

This analysis evaluates ASX200 corporate commitments against the first three best practice principles. Climate reporting is an emerging field and less mature than financial reporting. Therefore, company actions to demonstrate progress towards reaching net zero and aligning to 1.5°C are not always publicly disclosed, nor is there yet a standardised and comparable format for disclosure and assessment as frameworks such as TCFD are not yet mandatory in Australia. These actions would also require significant effort to gather for a dataset as large as the ASX200. Hence, they were not assessed in this analysis and the fourth principle was not applied. Implementation of mandatory disclosures and adoption of frameworks for good quality net zero transition plans would enable more complete future analysis.

Decarbonisation Futures ‘1.5C All-in’ scenario

Climateworks collaboratively promotes the advancement of research and tool development to support corporates’ alignment to a 1.5°C scenario by providing science-based, scalable and actionable guidance.

There are many potential pathways to limit global warming to 1.5°C but this assessment is based on a specific analytical output developed by Climateworks: Decarbonisation Futures ‘1.5C All-in’ scenario. This scenario is highly suited to this analysis because it sets out how emissions might evolve across the different sectors of the economy, in order to comply with the 1.5°C outcome under a set of Australia-specific socio-economic conditions. In other words, this scenario offers one possible division of a global carbon budget across time, geography, and sector that would restrict warming to below 1.5°C. It shows how a given industry or company can act in order to align with a 1.5°C pathway – provided that the rest of the economy complies with the pathways outlined by the scenario.
The emissions output from DF ‘1.5C All-in’ is based on a 5-yearly model, e.g. the model solves for results in 2030, and 2035, rather than each year. The specific year in which electricity generation reaches near zero emissions in a 1.5°C pathway is of particular significance as it is an important driver of economy-wide emissions reduction. DF ‘1.5C All-in’ shows that the electricity sector reaches near zero emissions by 2035. However due to the limitations discussed above, the exact year of near zero emissions cannot be ascertained. Therefore, a more recent 1.5°C scenario, Hydrogen Superpower from the Australian Energy Market Operator’s (AEMO) 2022 Integrated System Plan was referred to for additional clarity on the annual emissions of the electricity sector in a 1.5°C pathway (AEMO, 2022). The relative decarbonisation effort of the electricity system in Hydrogen Superpower is informed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Climateworks modelling commissioned by AEMO (Reedman, Chew, Gordon, Sue, Brinsmead, Hayward & Havas 2021).

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**BOX 1:**

**Decarbonisation Futures**

*Decarbonisation Futures* is an initiative of Climateworks Centre, supported by CSIRO modelling. It provides an overview on priority technologies, deployment pathways and benchmarks for achieving net zero emissions. It utilises the Aus-TIMES Model – an Australian adaptation of a techno-economic modelling framework developed by the International Energy Agency (IEA) and used in over 60 countries – to explore three possible low-emission futures through ‘scenario analysis’: ‘2C Deploy’, ‘2C Innovate’ and ‘1.5C All-in’. The AusTIMES model is one of Australia’s premier energy systems models, and has been used for a variety of climate scenario modelling work including multi-sectoral modelling to inform net zero emission scenarios for the Australian Energy Market Operator’s (AEMO) Integrated System Plan.

*Decarbonisation Futures* ‘1.5C All-in’ is the scenario used in this analysis. As its name suggests, this scenario models an emissions outcome compatible with limiting global temperature rise to 1.5°C. This scenario stays within a 50% probability of 1.5°C carbon budget for Australia (achieving net zero by 2035), and then continues on a net-negative emissions trajectory through to 2050 to improve the chances of achieving this goal. This substantially more ambitious target requires the combination of:

+ direct government intervention via policies designed to accelerate and regulate the deployment of demonstration- and mature-stage technologies
+ emerging technologies creating widespread change in emissions-intensive sectors through increased investment into research and development by the public and private sectors, and
+ facilitation of innovation by businesses and individuals.
"DF '1.5C All-in' provides detailed guidance on the level of emissions reductions required to achieve the 1.5°C temperature goal in different sectors of the Australian economy, and how this can impact future business activities and corporations' greenhouse gas reduction targets. This scenario considers strong action from policy, businesses and individuals, and technological progress. The carbon budgets for Australia used in this scenario are 7.0 GtCO2eq 2015–2050 for a 50% chance and 5.1 GtCO2eq 2015-2050 for a 67% chance (see section ‘Climateworks’ DF ‘1.5C All-in’ scenario overview’ for more details below).

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**BOX 2:**

**Why a 1.5°C scenario? What does it imply?**

The 2015 Paris Agreement sets the objective of limiting the rise in temperature well below 2°C and pursuing efforts to limit it to 1.5°C. The likelihood and severity of extreme climate events increases exponentially if global warming increases from 1.5°C to 2°C, and along with increasing international consensus, Climateworks Centre supports climate action towards 1.5°C.

DF ‘1.5C All-in’ scenario finds that aligning with the 1.5°C temperature goal of the Paris Agreement implies that the overall Australian economy must achieve net zero by 2035. The decarbonisation trajectories differ between economic sectors. For more information, please refer to the ‘Climateworks’ DF ‘1.5C All-in’ scenario overview’ section below.

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**Climateworks’ DF ‘1.5C All-in’ scenario overview**

**Key features**

- Specific to Australia.
- Covers all sectors and activities that contribute to emissions in Australia.
- Provides detailed sectoral benchmarks, representing incremental actions and long-term transformative outcomes.
- Considers the impacts of mature, demonstrated and emerging emission reduction solutions.
- Emission reduction opportunities are based on Climateworks' four pillars of decarbonisation (energy efficiency, renewable electricity, electrification and switching to zero-emissions fuels, and non-energy emissions).
- Reductions in underlying emissions in the economy are prioritised before sequestration.
- Science-based; aligns to a 50% chance of limiting global warming to below 1.5°C (or a 67% chance with limited overshoot).
Climateworks’ *DF ‘1.5C All-in’* scenario shows the Australia-specific emissions reduction trajectories for all sectors.

The *DF ‘1.5C All-in’* scenario emissions always stay within the 50% chance of limiting temperature rise to 1.5°C budget. However, after reaching net zero emissions ~2035, carbon sequestration continues and leads to Australia being net-negative emissions from 2035–2050. This sequestration draws down emissions released into the atmosphere, increasing the chance of meeting the 1.5°C temperature goal to 67%, despite initially overshooting this budget. While there is uncertainty around the overshoot-and-return mechanism, net-negative emissions only increase the chance of limiting warming to 1.5°C.
Sectoral emission reduction trajectories of DF ‘1.5°C All-in’ scenario

**Transport**

- Domestic aviation
- Rail
- Water transport
- Road freight
- Other transport
- Road passenger

**Agriculture**

- Sheep and beef cattle
- Grains and horticulture
- Dairy cattle
- Other agriculture and services
- Other animals

**Industry**

- Metals and mineral extraction
- Metals manufacturing
- Coal mining
- Other manufacturing
- Oil and gas extraction
- Utilities and refrigerants
- Chemicals and minerals manufacturing

**Buildings**

- Residential
- Commercial
Full breakdown of modelled sectors (activities details)

<table>
<thead>
<tr>
<th>SOLUTIONS</th>
<th>BUILDINGS</th>
<th>TRANSPORT</th>
<th>INDUSTRY</th>
<th>INDUSTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock</td>
<td>Residential</td>
<td>Electricity</td>
<td>Industry</td>
<td>Other manufacturing</td>
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<tr>
<td>Dairy</td>
<td>Townhouse</td>
<td>Black coal</td>
<td>Alumina</td>
<td>Construction services</td>
</tr>
<tr>
<td>Other animals</td>
<td>Apartment</td>
<td>Brown coal</td>
<td>Aluminium</td>
<td>Meat products</td>
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<td>Grains</td>
<td>Supermarket</td>
<td>Gas</td>
<td>Iron and steel – BF</td>
<td>Motor vehicles and parts</td>
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<td>Other agriculture</td>
<td>Retail</td>
<td>Oil products</td>
<td>Iron and steel – EAF</td>
<td>Other food and drink products</td>
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<td>Agricultural services and fishing</td>
<td>Hotel</td>
<td>Nuclear</td>
<td>Coal mining</td>
<td>Other manufacturing products</td>
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<tr>
<td>Forestry and logging</td>
<td>Office</td>
<td>Hydro</td>
<td>Oil extraction</td>
<td>Other metal products</td>
</tr>
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<td></td>
<td>Public building</td>
<td>Solar</td>
<td>Gas extraction</td>
<td>Other non-ferrous metals</td>
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<td>School</td>
<td>Wind</td>
<td>Iron ore mining</td>
<td>Paper products</td>
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<td>Bus</td>
<td>Bauxite mining</td>
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<td>Tertiary</td>
<td>Passenger vehicle</td>
<td>Other non-ferrous metal ores mining</td>
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<td>Hospital</td>
<td>Motorcycle</td>
<td>Other mining</td>
<td>Textiles, clothing and footwear</td>
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<td>Aged care</td>
<td>Articulated vehicle</td>
<td>Cement</td>
<td>Wood products</td>
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<td>Data centre</td>
<td>Light commercial vehicle</td>
<td>Non metallic construction materials (not cement)</td>
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<td>Rigid trucks</td>
<td>Petroleum refinery</td>
<td>Water supply</td>
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<td></td>
<td></td>
<td>Rail transport</td>
<td>Other chemicals</td>
<td>Waste</td>
</tr>
</tbody>
</table>
Translation of DF ‘1.5C All-in’ scenario into company-specific 1.5°C trajectories

Climateworks defined company-specific emissions reduction trajectories based on the sectoral trajectories deemed relevant to companies under the DF ‘1.5C All-in’ scenario and, in the instances where electricity generation is concerned, the AEMO’s 2022 ISP Hydrogen Superpower scenario for the electricity sector (see ‘Decarbonisation Futures ‘1.5C All-in’ scenario’ for more details).

The Global Industry Classification Standard (GICS) sectors are mapped against the Climateworks DF ‘1.5C All-in’ modelling sectors, resulting in the creation of 14 Net Zero Momentum Tracker updated project sectors (project sectors). The sector mapping between these classification systems is provided below in Table 1 to illustrate the different GICS and Climateworks modelling sectors included in each of the project sectors.

Companies on the ASX200 were allocated to a project sector, then assessed against a company-specific trajectory, which is a weighted average of the DF ‘1.5C All-in’ scenario emissions trajectories for the modelling sectors corresponding to the economic sectors in which they operate based on their current reported or estimated emissions breakdown (see the ‘Data gathering and validation’ section for more details). Realistically, these company-specific trajectories may change over time as companies’ emissions profiles evolve. Therefore, as a point-in-time assessment, these trajectories have been developed based on the assumption that the sectoral breakdown remains unchanged from the current year to 2050. The accuracy of the mapping of emissions to modelling sectors is limited by the granularity level of sectors available in the model. Company emissions were mapped to the most granular sector possible, so for example, scope 3 emissions of a gas supply company are mapped to the ‘Gas supply’ modelling sector which considers the overall emissions due to gas consumption by the various end-users in the economy, but does not differentiate between them. The company-specific trajectory enables each company to have an individual 1.5°C trajectory, ensuring that highly diversified companies are assessed against trajectories that apply to the activities in which they are involved. Figure 1 is an example showing three individual trajectories of the sectors in which an example company operates and the resulting company-specific trajectory.

A key sector, carbon forestry, represents the national sequestration effort required in Australia’s transition to 1.5°C and plays an important role in the DF ‘1.5C All-in’ scenario overall emissions trajectory. However, the scenario modelling output is not prescriptive about the proportion of sequestration required in each physical modelling sector (transport, agriculture, industry, electricity and buildings), nor the role of corporations as opposed to government or other actors. Therefore, the negative emissions from sequestration have not been incorporated in the development of company-specific 1.5°C trajectories.

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4 GICS is an industry taxonomy for use by the global financial community. It groups listed entities according to their main business activities. More details on GICS classification [here](S&P Global 2018).
### TABLE 1: Mapping of project sectors to GICS industries and *Decarbonisation Futures* modelling sectors

<table>
<thead>
<tr>
<th>PROJECT SECTOR</th>
<th>GICS INDUSTRY(S)</th>
<th>DECARBONISATION FUTURES MODELLING SECTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metals and mining</td>
<td>Metals and mining</td>
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<td>Aluminium</td>
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<td>Coal mining</td>
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<td>Gas mining</td>
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<td>Iron and steel - BF</td>
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<td>Iron and steel - EAF</td>
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<td></td>
<td>Iron ore mining</td>
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<td></td>
<td>Non-ferrous metal ores mining</td>
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<td></td>
<td></td>
<td>Oil mining</td>
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<tr>
<td>Oil, gas and consumable fuels</td>
<td>Oil, gas and consumable fuels</td>
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<td>Gas mining</td>
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<td>Commercial buildings - overall</td>
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<td>Auto components, Biotechnology</td>
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<td>Electronic equipment, instruments and components</td>
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<td>Other transport</td>
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<td>Communication services</td>
<td>Diversified telecommunication services</td>
<td>Office</td>
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<td>Entertainment</td>
<td>Data centre</td>
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<td>Interactive media and services</td>
<td>Hotel</td>
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<td>Media</td>
<td>Commercial buildings - overall</td>
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<td>Road transport - passenger</td>
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<td>Information technology</td>
<td>IT Services</td>
<td>Software</td>
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<td>Financials</td>
<td>Banks</td>
<td>Capital markets</td>
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<td>Hotels, restaurants and leisure</td>
<td>Hotels, restaurants and leisure</td>
<td>Office</td>
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<td>Retail, wholesale and distribution</td>
<td>Distributors</td>
<td>Multiline retail</td>
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<tr>
<td>Other services</td>
<td>Diversified consumer services</td>
<td>Energy equipment and services, Health care providers and services</td>
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FIGURE 1: Individual trajectories of sectors in which an example company operates and its resulting company-specific 1.5°C trajectory sectors.
Basis of the 1.5°C alignment assessment

Baseline

Baseline year is a reference point in time against which emission reductions in the future are measured.

For the commitments’ alignment assessment, the analysis has considered the baseline year specified by the company. When the baseline year was not specified, 2021 was assumed as the baseline year. Emissions reduction targets with a 2021 or earlier targeted year have not been considered in this assessment, as the information was not available for all the companies.

Assessment methodology

The alignment of corporates’ commitments refers to a point-in-time assessment for three time periods, that is, the short-term (2022-2025), medium-term (2026-2039) and long-term (2040+). The details of corporate climate strategies and actions such as production plans and capital allocation are not within the scope of the alignment assessment.

When a company aims to achieve more than one target within the same timeframe (short, medium or long-term), only the most ambitious target is assessed. Targets for different divisions of a company within any of the three timeframes are combined and the resulting percentage of reduction out of the total emissions of the company is considered as one target for the alignment assessment.

1.5°C aligned targets

NET ZERO TARGET

‘Net zero’ means a point in time at which the total emissions being emitted into the atmosphere is equal to the total amount being absorbed from the atmosphere.

Net zero targets, aspirations, aims, carbon neutral targets, etc. are considered to be the same type of commitments (no differentiation between terms). They are interpreted as an aim for a 100% reduction in company reported emissions and have been included in this assessment unless it is clear that the targets are to be achieved mainly with the use of offsets (see ‘Offsets consideration’ for more details).

Net zero targets are assessed for their 1.5°C alignment by comparing the target year with the year when near zero emissions can be achieved in DF ‘1.5C All-in’ scenario and in the instances where electricity generation is concerned, the AEMO’s 2022 ISP Hydrogen Superpower scenario for the electricity sector (see ‘Decarbonisation Futures ‘1.5C All-in’ scenario’ for more details). DF ‘1.5C All-in’ shows that, when accompanied by carbon sequestration efforts, warming can be limited to 1.5°C when most sectors achieve near zero emissions by 2050, but the electricity generation and the buildings sectors achieve this by early 2030s. Therefore, net zero targets for corporates where the majority of emissions come from generating power or use of buildings are assessed against achieving net zero in early 2030s.

When a net zero target is aimed to be achieved in the short or medium-term, it is carried forward to the long-term (i.e. emissions reduction implied by the target is maintained to the long term, so its alignment will not be assessed again for the medium and long-term).
INTERIM EMISSIONS REDUCTION TARGETS

Interim emissions reduction targets refer to targets that contribute towards but do not by themselves fully achieve net zero, typically set in the short- and medium-term of the assessment period. The percentage reduction of emissions implied by these interim commitments is assessed for their 1.5°C alignment by comparing against the emissions reduction benchmarks based on company-specific 1.5°C trajectories. A 10% margin of error is allowed for the alignment assessment to account for assumptions made when data availability is limited.

Climateworks acknowledges that this is not a one-size-fits all approach, especially regarding commitments to reduce financed emissions as the impact on the magnitude of reduction is often not directly quantifiable from the framing of these commitments. Therefore, it cannot readily be assessed against the emissions reduction benchmarks implied by DF ‘1.5C All-in’. As mandatory reporting standards are still emerging, Climateworks notes the valuable contributions of other initiatives and organisations such as Climate Action 100+ and Climate Energy Finance to shed more light on financed emissions to enable transparent assessment of particular organisations.

Scope 3 applicability

This analysis considers if commitments cover a company’s full carbon footprint, understood as all the significant operational (scope 1 and 2) emissions and value chain emissions (scope 3, or downstream and upstream emissions, and financed emissions where relevant) – refer to the GHG Protocol for more detail on greenhouse gas reporting definitions and standards.

Climateworks has reviewed the materiality of scope 3 emissions across the ASX200 to assess its applicability to this assessment. As a rule of thumb, scope 3 is deemed not applicable for companies predominantly involved in emission-intensive operations where the majority of their emissions stem from scope 1 and 2, such as steel manufacturing, airlines operation, aluminium smelting and cement manufacturing. However, in the real world, companies are often diversified with business activities spanning multiple sectors. Combining this with limited scope 3 reporting, the following approach, in order of priority, were adopted based on existing best practice:

1. Proportion of reported scope 3 emissions (considering scope 3 as ‘material’, and thus deemed to be applicable for assessment, when these represented at least 40% of total emissions).\(^5\)
2. When a company emissions profile was not available or the information available was limited, a combination of company-specific value chain activities, information obtained from Climate Action 100+ benchmark methodology for scope 3 applicability on a sector level, sectoral reports, and S&P Global Sustainable1 data was used to determine scope 3 applicability.

As a result, scope 3 was assessed as being applicable for 95% of the companies assessed. Companies for which scope 3 was deemed not applicable are as follows:

1. Aurizon Holdings Limited
2. Cleanaway Waste Management Limited
3. Evolution Mining Limited
4. Gold Road Resources Limited
5. Northern Star Resources Ltd
6. NEXTDC Limited
7. Qantas Airways Limited
8. Ramelius Resources Limited
9. Regis Resources Limited
10. Silver Lake Resources Limited

\(^5\) The 40% threshold is in line with Science Based Targets Initiative’s criteria and recommendations to set scope 3 targets.
Consideration of use of offsets

Net zero targets achieved largely through carbon offsets (not actual emissions reductions) are not considered as net zero targets for the purposes of this analysis and therefore were not assessed. Emissions reduction targets expressed as reliant on the use of offsets were only assessed if clearly related to otherwise unavoidable emissions.

However, because information on the use of offsets is not always clearly disclosed by companies, some targets relying largely on offsets may have been included in this study. Climateworks is supportive of other organisations and initiatives seeking to provide greater clarity on the appropriateness of offset use and disclosure of offsets strategies such as SBTi (SBTi, 2022).

More information on how offsetting needs to be approached to ensure it helps achieve net zero is available in the Oxford Offsetting Principles report (University of Oxford, 2020).

Quantification of emissions reduction commitments

To quantify the amount of emissions reduction that can be achieved by a corporate’s commitment, the quantity of the baseline emissions to which the reduction target applies is required. When these baseline emissions are not disclosed, the following approaches are followed:

+ If the company discloses baseline emissions that include its overseas operations, an estimation for its Australia-specific proportion is established.
+ If the company does not disclose the baseline emissions to which the reduction target applies and they cannot be estimated, the emissions reduction implied by the target is not quantified. Note the target’s alignment to the 1.5°C trajectory will be assessed when the emissions breakdown can be estimated or assumed.

To quantify emissions reduction intended by all ASX200 companies from 2021 onwards, a normalisation of the baseline year of commitments to 2021 has been done for those companies with commitments not using 2021 as the baseline year.

Cumulative emissions assessment

Climate change is directly linked to the cumulative emissions of long-lived greenhouse gases. It is the cumulative behaviour of emissions between a given date and when net zero emissions are achieved that will determine the degree of global warming. Therefore, conducting a cumulative assessment determines if a company’s decarbonisation trajectory is in line with a 1.5°C trajectory.

ASX200 total cumulative emissions

The cumulative scope 1 and 2 emissions of a company from 2021 to 2050 are calculated by summing its annual scope 1 and 2 emissions factoring in its emissions reduction commitments. The annual emissions of a company without any assessed emission reduction commitments are assumed to remain constant from 2021 to 2050. An ‘ASX200 total cumulative emissions’ can then be calculated by summing up the cumulative emissions of all companies.

ASX200-specific DF ‘1.5C All-in’ trajectory carbon budget

The 1.5°C cumulative emissions of a company is calculated similarly to the cumulative emissions of a company described above but by replacing the percentage of reductions targeted by the company with the percentage of reductions required by the company-specific 1.5°C trajectory. The sum of 1.5°C cumulative emissions of all ASX200 companies amounts to the ‘ASX200-specific DF ‘1.5C All-in’ trajectory carbon budget’.
Calculating the ASX200’s implied carbon budget overspend

The ‘ASX200 total cumulative emissions’ can then be compared with the ‘ASX200-specific DF ‘1.5C All-in’ trajectory carbon budget’. If the former is larger than the latter, there is an ‘overspend’ of budget, implying a misalignment with the 1.5°C trajectory. If the former is equal to or smaller than the latter, the emissions of the ASX200 implied by companies’ commitments are in line with the 1.5°C trajectory. See Figure 2.

**FIGURE 2: Comparison of ASX200 total cumulative emissions and an ASX200-specific 1.5°C trajectory carbon budget**

- **Determine company’s emissions reduction commitment(s)**
- **Project company’s emissions to 2050 factoring in its commitment(s)**
- **Sum up annual emissions of the projections from 2021 to 2050**
- **Sum up cumulative emissions of all ASX200 companies**
- **Determine company-specific 1.5-degree trajectory**
- **Sum up annual emissions of the trajectory from 2021 to 2050**
- **Sum up cumulative emissions of all ASX200 companies**
- **Comparison assessment between ASX200 total cumulative emissions and ASX200-specific DF ‘1.5C All-in’ trajectory carbon budget**
References


Intergovernmental Panel on Climate Change (IPCC) (2018), Global Warming of 1.5°C, https://www.ipcc.ch/sr15/


Science Based Targets initiative (SBTi) (2021) Climate ambition: SBTi raises the bar to 1.5°C. https://sciencebasedtargets.org/news/sbti-raises-the-bar-to-1-5-c

