

Promises, pathways & performance

Climate change disclosure in the ASX200

July 2022



About ACSI

Established in 2001, ACSI exists to provide a strong, collective voice on environmental, social and governance (ESG) issues on behalf of our members.

Our members include 26 Australian and international asset owners and institutional investors. Collectively, they manage over \$1 trillion in assets.

Our members believe that ESG risks and opportunities have a material impact on investment outcomes. As fiduciary investors, they have a responsibility to act to enhance the long-term value of the savings entrusted to them.

Through ACSI, our members collaborate to achieve genuine, measurable and permanent improvements in the ESG practices and performance of the companies they invest in.

ACSI staff undertake a year-round program of research, engagement, advocacy and voting advice. These activities provide a solid basis for our members to exercise their ownership rights.



26 Australian & international investors



Leading voice on ESG issues and advocacy



ACSI members manage \$1 trillion in assets

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Introduction

ACSI and its member funds have long been aware the transition to a low carbon future presents clear economic risks, as well as opportunities for new investments. This is why, for over a decade, ACSI has actively engaged with companies, and regulators, to seek improvements in the way climate risk is managed and promote the orderly transition to a low-carbon economy.

To assess climate risk, investors require sufficiently granular climate-related disclosure to understand their investment exposure and consider the impacts of transition and physical risks. This research provides an overview of the current state of climate-related disclosures in ASX200 companies.

This study highlights examples of best practice and gaps in reporting, provides a snapshot of Net Zero commitments, Taskforce on Climate-related Financial Disclosure (TCFD) adoption rates and an insight into how companies are setting objectives for meeting the Paris Agreement. We also examine the disclosure, comparability and depths of climate scenario analysis and physical risks assessments.

In preparing this research, ACSI reviewed all publicly available documents produced by ASX200 entities as at 31 March 2022. This includes Annual Reports, Sustainability Reports, standalone TCFD Reports, company websites and ASX announcements. Additional context was drawn from ACSI's ongoing engagement with directors of ASX200 companies.

Key findings

Analysis of public reporting by ASX200 companies up to 31 March 2022 ("2021 reporting") found that management and disclosure of climate-related risks and opportunities has continued to significantly improve. However, key challenges remain for companies in strengthening the standard of reporting so investors can adequately assess how strategies are aligning with the Paris Agreement goals.

Net zero emissions commitments and emissions reduction targets

- **Net Zero commitments are now the norm for Australian companies with \$1.59 trillion or 70% of the ASX200's collective market capitalisation adopting net zero commitments.** This represents 95 companies, almost double the number from March 2021.
- **More detailed targets are now being set to support long-term ambitions** - Reflecting a focus on 2030, medium term targets (some aiming at net zero) now dominate company-set targets. Ninety-six companies have a target focused between 2026-2039. This has more than tripled since 2019 and shows a shift away from short-term actions.
- **Two-thirds of the ASX200 have set at least one emissions reduction target.** With most of Australia's publicly listed companies planning to address climate change across various timelines, companies without emissions reduction targets are now outliers and will be under increasing pressure to establish sector relevant targets.
- **Climate change is increasingly being integrated into management decisions and corporate disclosure.** Primarily, this is through using a shadow carbon price in capital allocation decisions and integration into executive compensation:
 - **Carbon Pricing** - ACSI found 29 companies disclosed using a shadow carbon price in decision making, the vast majority (27) of them in the ASX100. With no national price on carbon, this result is significant, demonstrating that global movements and regulation around carbon make it increasingly important for companies to price carbon into their decision-making.
 - **Incentives** - Thirty-eight companies in the Materials, Energy & Utilities, Industrials, Health Care, Real Estate, Financials and Consumer Discretionary sectors integrated sector-relevant climate change metrics into their executive remuneration.
- **Science-based accreditation is growing as investors increasingly seek 'verifiable' targets.** 36 companies disclosed one or more of their targets are 'science-based'. A science-based target is a clearly defined emissions reduction pathway, from a baseline year, that is set in line with latest climate science necessary to meet the goals of the Paris Agreement of limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C
- **Companies have recognised the importance of Scope 3 emissions.** This reflects a recognition that market risk often lies within Scope 3 emissions. While disclosure of Scope 3 targets still trends well short of Scope 1 and Scope 2 disclosures, in 2021 reporting 28 companies disclosed Scope 3 targets and milestones.

TCFD adoption

- **The majority of companies are now adopting and disclosing against the TCFD**, with 103 companies either fully or partially aligning their disclosure to the framework. This is a dramatic lift in adoption as when the TCFD framework was first established in 2017, only 11 companies used it.
- **The high rate of adoption by higher risk sectors.** More than half the index uses the TCFD - including the majority of companies in higher risk sectors - this includes 83% of Energy & Utilities, 60% of Industrials and 75% of Materials.

Transition risk scenario analysis: company resilience to low-carbon futures

- **Disclosing climate scenario analysis is increasingly becoming the norm.** Eighty-eight companies, up from 62 last year, have stress-tested their business against low carbon outcomes. However, we note the quality of these disclosures is variable and not all companies provide investors with qualitative detail and quantitative outcomes.
- **The majority of companies used models that tested against less than 2°C of warming. This included an increase in the use of 1.5°C scenarios by companies.** ACSI notes investors expectations are that all companies should be stress-testing their business against a 1.5°C scenario, to reflect the fact holding warming to 1.5°C is the Paris Agreement's goal. Despite this we only found only 40 companies using a 1.5°C model.
- **Investors are often faced with inconsistent, incomplete, incomparable and unverifiable information within scenario analysis.** While we saw some level of standardisation through the use of International Energy Agency scenarios, we also found 105 different scenarios used across various levels of warming. This issue accounts for the increasing momentum behind the International Sustainability Standards Board's (ISSB) standards, including the Draft IFRS S2 'Climate-related Disclosures', and broader trends to make climate-related reporting mandatory across multiple jurisdictions.

Physical risk analysis: testing asset and operational resilience

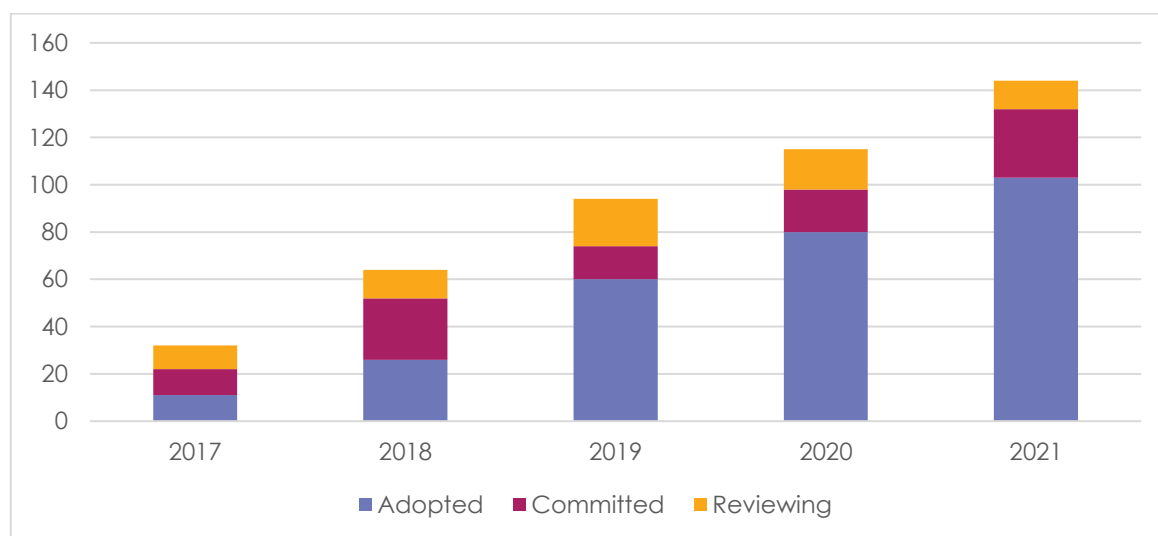
- **Physical risk reporting by ASX200 companies slightly increased.** ACSI found 41 companies undertook and disclosed physical risk analysis, up from 36. A further 13 companies either had this work in progress or indicated they planned to undertake it in the near term. This type of analysis is typically where a company has mapped their assets against the physical risks and assessed the severity, likelihood and operational and financial impact of such events, typically culminating in the company creating an adaptation plan.
- **A further 43 companies provided a basic identification of physical risk.** Disclosures stated that severe weather events and physical risks borne from climate change posed a risk to the business and identified this in the operating and financial review. This level of disclosure does not identify how various physical risk events could affect specific assets or the severity of these impacts to the business.
- **Most physical risk analysis does not quantify potential financial impacts and business risks.** Given the growing frequency and severity of extreme weather events at the current level of 1.1°C of warming, companies will need to undertake asset and jurisdiction level analysis whilst also preparing adaptation plans to build resilience into their operations in the longer term.

TCFD adoption

In the wake of 2021's United Nations Climate Change Conference (COP26) in Glasgow, capital markets placed significant emphasis on the need for decision-useful climate disclosure. The drive for comparable, consistent and reliable information, both qualitative and quantitative, is growing in momentum, and is critical to understanding and managing the risks of specific stocks and for managing systemic financial risks in the economy.

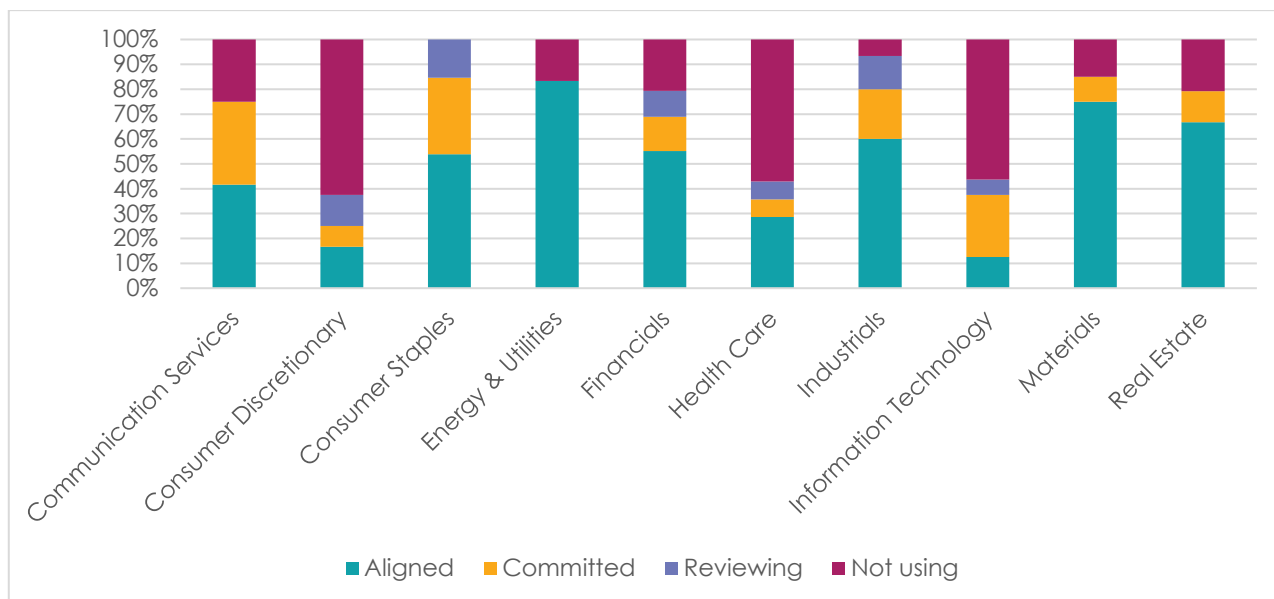
In Australia this momentum is also growing. While we do not, as yet, have standards mandating climate-related disclosure, investment markets are already responding. Last year, ACSI successfully predicted year FY21 reporting would see the majority of the ASX200 undertaking TCFD disclosure. More than half of the ASX200 (103) now align climate disclosure to the TCFD framework, an annual average growth rate of 82% since the TCFD's inception in 2017. (Graph 1 below).

With companies flagging their commitment to implementing TCFD, we expect more than two-thirds of the ASX200 to be using TCFD in the near term.



Graph 1: ASX200 companies adopting, committing, and reviewing the use of TCFD over time

Across the industries most exposed to climate change risk, we see, unsurprisingly, high levels of TCFD adoption – this includes 83% of Energy & Utilities, 60% of Industrials and 75% of Materials (Graph 2 below).



Graph 2: Sectoral TCFD adoption

The need for consistent, comparable and decision-useful information

This research occurs as a number of jurisdictions have introduced regulated climate-related disclosure. In early 2022, the U.S Securities and Exchange Commission (SEC) [proposed a new rule](#), which would effectively mandate climate disclosure for all U.S public companies. This followed the introduction of mandatory disclosure by other jurisdictions, including the European Union, the United Kingdom, Switzerland, Japan, Singapore, Hong Kong and New Zealand, which all draw on the recommendations of the TCFD Framework.

Whilst there has been strong adoption of TCFD investors still face significant challenges accessing relevant and comparable information.

This report highlights the key areas of disclosure in which investors face these challenges, including:

- Varied disclosure of Scope 1, 2 and 3 emissions, in particular the limited focus on Scope 3 emissions.

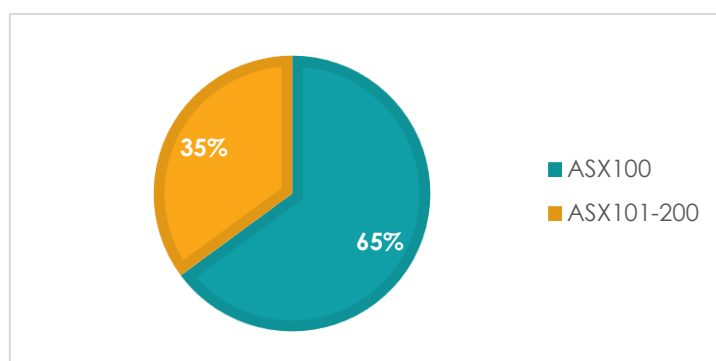
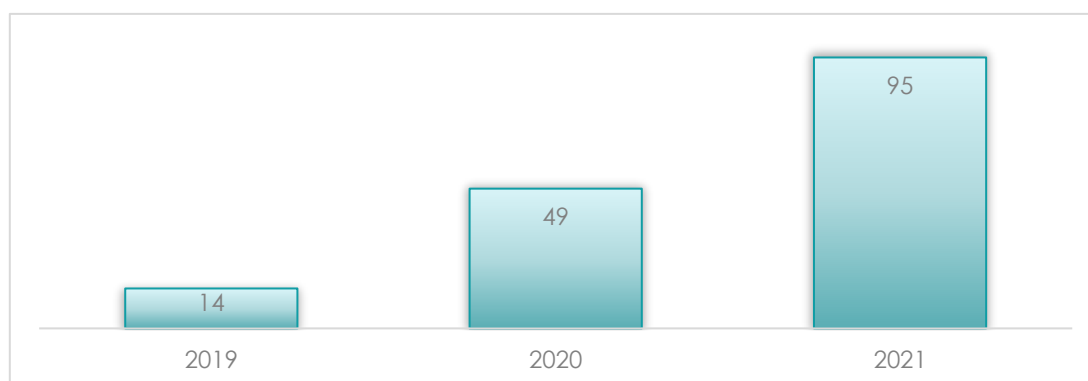
- Limited evidence of how climate change-related assumptions are integrated into capital allocation decisions.
- Few companies provide disclosure on physical risk analysis, how adaptation and risk mitigation are integrated into assets and the cost the company bares from climate inaction.
- There remains a significant variation in scenario analysis disclosure, and limited transparency on the assumptions and inputs driving scenarios.
- Difficulty in assessing the alignment of company targets to global efforts to limit warming to 1.5°C.

The harmonisation of climate reporting standards is also a major regulatory theme. The establishment and work of the International Sustainability Standards Board (ISSB) has been widely welcomed across the market, given its aim to address some of these issues. The adaptation of the existing TCFD framework into the Draft IFRS S2 on Climate-related Disclosures means that companies which have already adopted the TCFD Framework will be better placed as the ISSB Standards progress.

Net zero emissions commitments

The net zero transition is inevitable and already underway. Since last year's report was published, there has been an increased ambition globally and in the Australian market. In the Australian policy landscape, a fundamental shift occurred with a long-awaited commitment to net zero by 2050. Internationally, 75% of countries increased their Nationally Defined Contributions at COP26, and a proliferation of net zero commitments has swept capital markets.

As at 31 March 2022, companies across the ASX200 with a net zero commitment accounted for 70% (\$1.59 trillion) of the ASX200's collective market capitalisation. The underlying number of companies has almost doubled on last year to 95 companies with a net zero commitment from 49 at 31 March 2021.



Graph 3: Growth of net zero commitment adoption within the ASX200 and Graph 4: percentage of net zero commitments within the ASX100 and ASX 101-200

It is important to note that not all 'net zero' commitments are comparable and the calculation of net zero pathways differs from company to company. COP26 made it clear that while warming of 1.5°C remains just within reach, much more low-carbon investment will be required to prevent irreversible damage if warming is not held to 1.5°C. In capital markets, the language on what is considered 'Paris Aligned' has moved significantly from 'well-below 2°C' to one clearly centred around the expectation of 1.5°C. The pace of change and the increasing expectations of investors and society more broadly means that those at the beginning of the net zero journey will need to catch up fast.

In FY21 disclosure, two-thirds of net zero commitments came from Australia's largest companies, with most aiming for net zero by

2050. It is important to consider here that, whilst the end point for the global economy to reach net zero is 2050, developed economies are generally expected to reach net zero earlier. This is demonstrated in the Climateworks Centre Decarbonisation Futures '1.5C All in scenario' scenario, is specifically designed to assess the Australian economy's transition. Under this 1.5°C scenario, there is a pathway for Australia to reach net zero by ~2035¹.

This is consistent with other 1.5°C scenarios, which show net zero being reached at a range of times between 2035 and 2050 – including those by Climate Action Tracker, Climate Analytics, Climate Change Authority and the Climate Targets Panel. A key takeaway from all scenarios is that greater ambition is required for the medium term if we are to reach the Paris Agreement aim of keeping warming to 1.5°C.

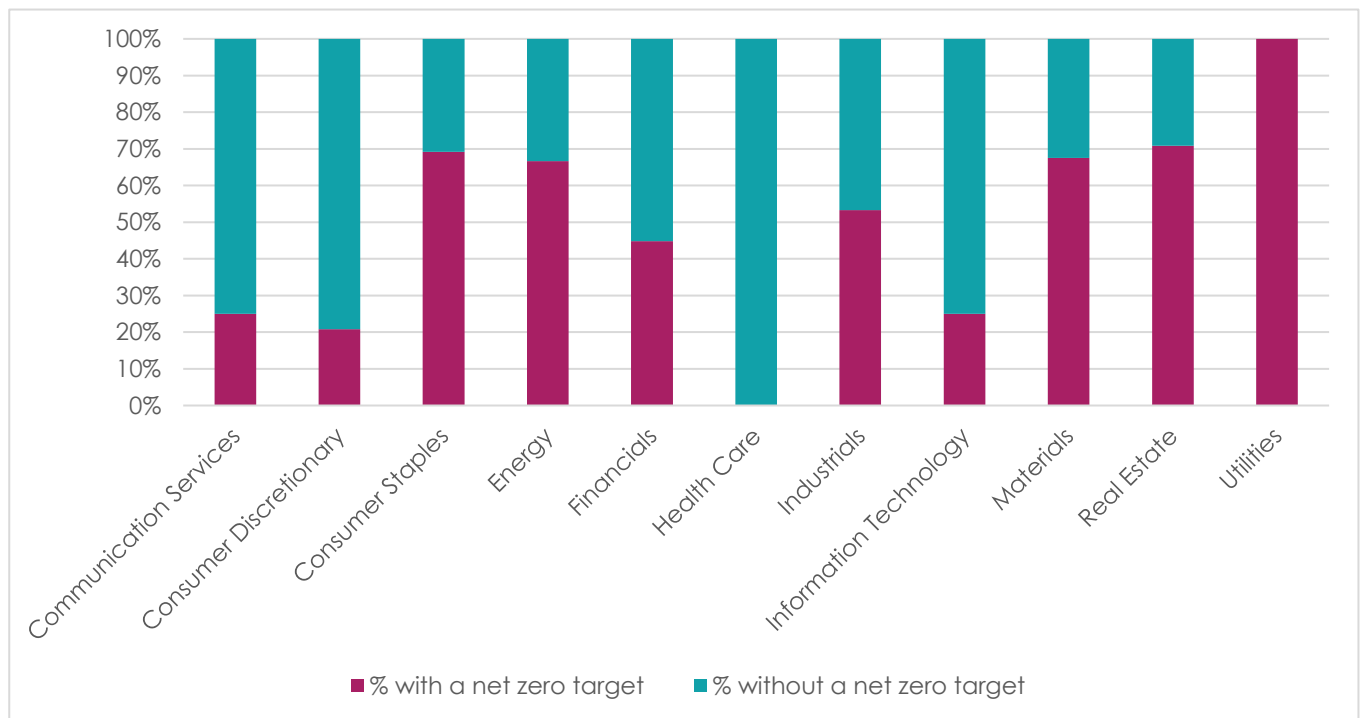
Scenario	Emissions reduction in 2030	Emissions reduction in 2035	Delta in 2030 compared to Federal Policy
1.5°C Climate Action Tracker, excl LULUCF	-55%	-67%	12%
1.5°C Climate Analytics, incl LULUCF	-51%	-67%	16%
1.5°C Climateworks Centre	-74%	-100%	31%
1.5°C Climate Change Authority, incl LULUCF	-65%		22%
1.5°C Climate Targets panel, incl LULUCF	-74%	-100%	31%
1.5°C Climate Targets panel, excl LULUCF	-50%	-67%	7%
Federal Government Pathways	-43%		

Note: LULUCF: Land use, land-use change and forestry

¹ <https://www.climateworkscentre.org/project/decarbonisation-futures/>.

ACSI found the sectors leading the way on setting net zero targets include Utilities, Real Estate, Consumer Staples, Materials, Energy and Industrials.

Given net zero is unequivocally where Australian businesses need to be, the current levels of adoption, particularly in high-risk industries, need to continue to increase.



Graph 3: ASX200 net zero commitments by sector

In addition to those with a net zero commitment, we found 55 companies whose operations were already carbon neutral or had set carbon neutrality targets, up from 18 last year. When assessing targets, 'net zero' requires emissions reductions in line with the latest science and then balancing the remainder with carbon offsets, while 'carbon neutrality' simply requires purchasing

carbon reduction credits equivalent to neutralising emissions that have been emitted. It is generally accepted emissions reduction should be the primary mechanism adopted by companies to reduce emissions, and offsets should be used only after all other avenues for emissions reduction are exhausted.

Assessing a Paris-Aligned Pathway

There is a growing expectation from investors and regulators that companies reduce their contribution to climate change by reducing emissions and, where needed, adapt their business model to compete more effectively in an evolving market.

Comprehensive transition plan disclosure, therefore, is fundamental to helping investors understand the tangible steps companies will take to meet their net zero commitments and thrive in a low-carbon economy. Investors focus on these issues with two key challenges in mind. Firstly, where investors have set net zero portfolio targets, they need to ensure the underlying companies are in line with their goals. Secondly, investors often assess the ambition and actions of companies to drive decarbonisation and transformation to help finance that transition (when transformation goals are achievable). The latter requires investors to assess progress on a sector-specific basis, as opposed to the carbon accounting required for the former.

When assessing a comprehensive transition plan, investors are generally looking for companies to demonstrate or address the following:

- **The company's plan is credible.** It should address the company's sector-appropriate material emissions and be informed by Paris-aligned scenario analysis. The company should disclose a roadmap and long-term strategy for its resilience or transformation, including key levers and sector-specific *leading indicators* the company can use to demonstrate progress and investors can use to assess it.
- **The company's plan is ambitious.** The plan should have short-, medium- and long-term decarbonisation targets, which are Paris-aligned and consider the broader societal impacts of the reorganisation to a low-carbon economy. Disclosure should demonstrate and clearly explain how the targets are Paris-aligned and how the broader impacts have been taken into account.
- **The company's plan is backed by real action.** Investors need to see and assess how the company is prioritising decarbonisation and integrating climate change into decision making, through internal carbon prices and abatement curves. It is important for investors to be able to account for the action undertaken each year by the company and be able to compare against leading targets companies set ahead of time. This can include decarbonisation targets, investment milestones, alignment of capital allocation and investment in research and development where solutions need to be developed.

Investors need companies to provide decision-useful information so that financial markets can properly price and act on the risks and opportunities of climate change. This is only possible if financial markets have standardised, consistent, comparable and high-quality information.

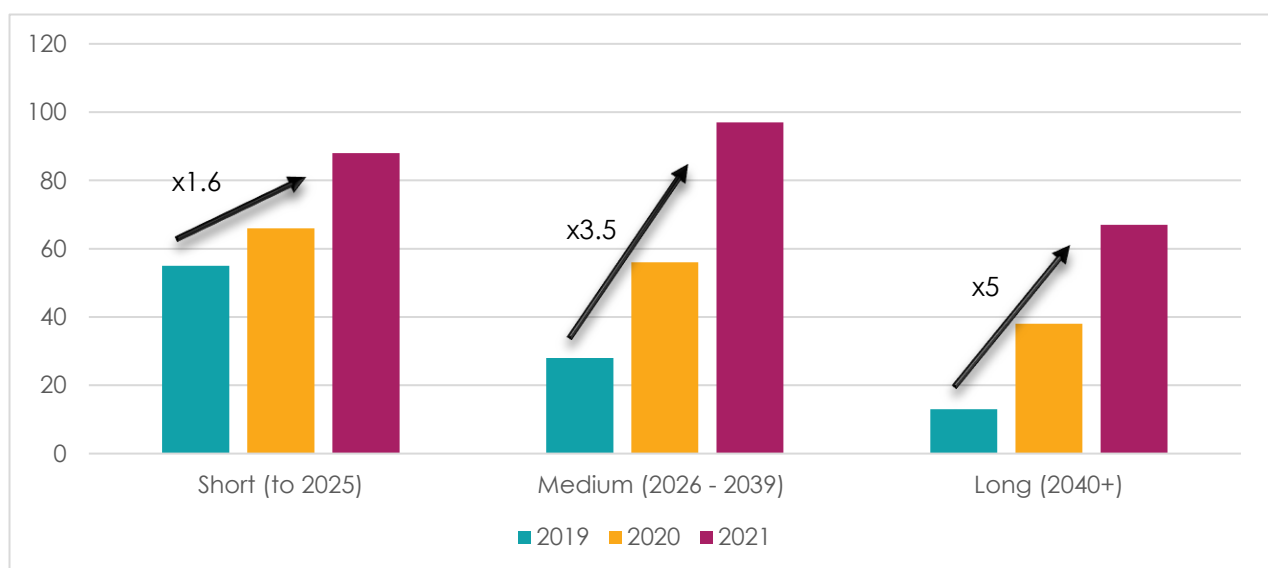
The types of disclosures sought by investors include:

- Use of internal carbon prices and abatement curves for projects.
- Integration of climate change factors into capital allocation frameworks, including alignment of allocation to emissions reductions targets and transformation strategies.
- Alignment of company targets and strategy to 1.5°C outcomes.
- Where technology solutions are required, proportional investment in and disclosure of research and development.
- Leading indicators and milestones beyond emissions reductions against which investors can assess progress.
- The cost of inaction companies could face if warming is not held to 1.5°C – for example, losses in productivity from extreme weather events, damage to infrastructure and assets, geopolitical and social disruption risks that may manifest or supply chain impacts.

Company pathways and emissions reduction

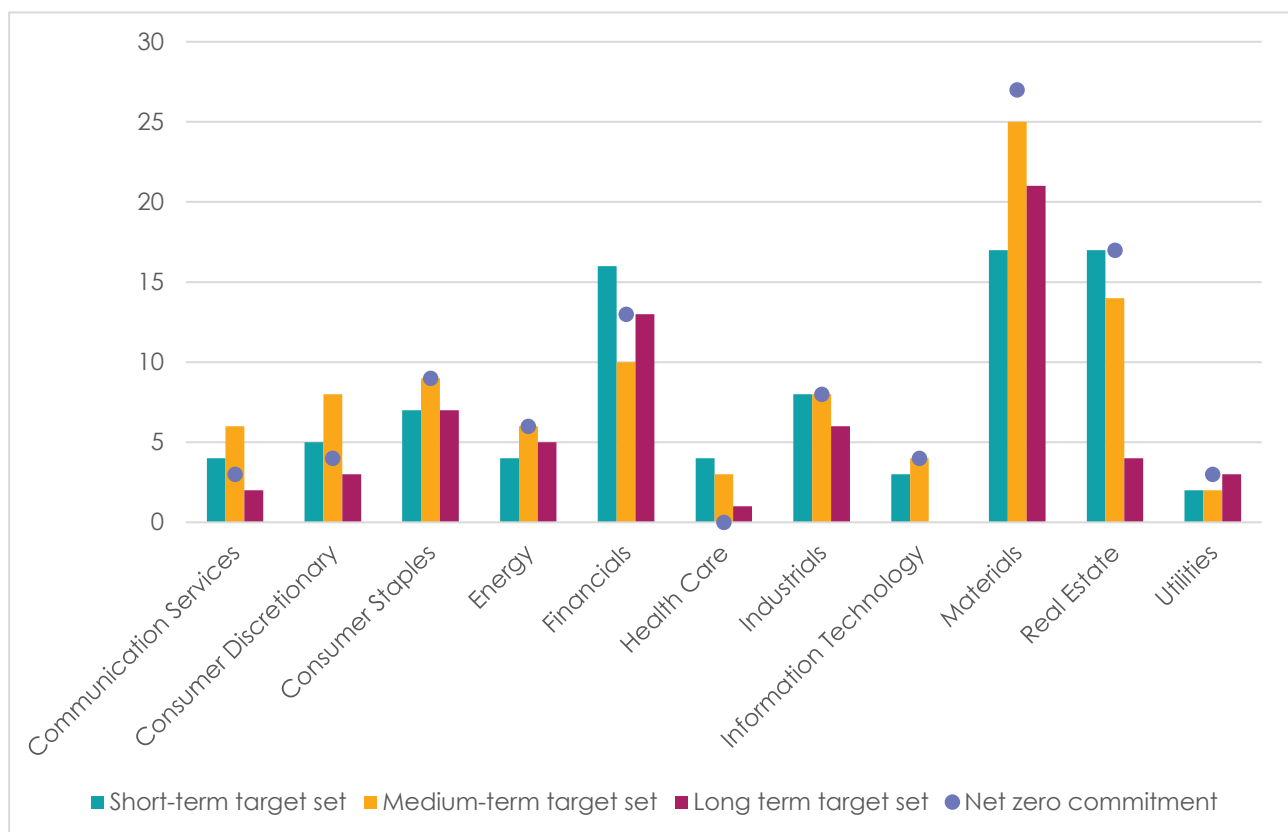
Whilst net zero commitments provide an important signpost of company ambition, and a clear signal of long-term alignment, greater importance is placed on the disclosure of a credible and ambitious pathway backed by real action. Part of assessing the actions companies undertake is the clear mapping of how they will, over time, decarbonise in line with their stated ambitions. While we welcome the uplift in target setting and commitments, the conversation is increasingly moving to how those commitments will be achieved

Between 2020 and 2021 reporting, we have observed an uplift in all categories of target setting, but particularly a large uplift in the establishment of medium and longer-dated targets by the ASX200. Compared to 2019 reporting, medium-term targets increased more than three-fold and long-term targets, five-fold. Both these categories include many net zero targets. These changes reflect the conversations investors have been having with investee companies around the importance of setting medium-term targets, particularly in the wake of the bipartisan government commitment to net zero.



Graph 4: ASX200 emissions reduction targets

Sector	% of companies with a medium-term target	% of companies with a net zero target
Communication Services	50%	25%
Consumer Discretionary	33%	21%
Consumer Staples	77%	69%
Energy	67%	67%
Financials	34%	45%
Health Care	21%	0%
Industrials	53%	53%
Information Technology	31%	25%
Materials	63%	68%
Real Estate	58%	71%
Utilities	67%	100%



Graph 5: Emissions reduction targets by sector

Because of the significant uplift in targets across multiple time horizons, investors can begin critically assessing the level of ambition of companies' decarbonisation pathways. Target setting across short-, medium- and long-term horizons for the ASX200 are shown in Graph 5. The vast majority of set targets relate to

companies' operational emissions (Scope 1 and 2 emissions, however we are seeing increased focus on Scope 3 emissions.

See the appendix for the [emissions reduction targets set by the ASX200 on a company-by-company basis](#).

Companies are using shadow carbon prices to ensure efficient capital deployment.

Following company engagement foreshadowing the way companies were integrating climate change considerations into investment and capital decision making, ACSI has, for the first time, captured data on how companies are using a shadow carbon price to inform decision-making. In FY21 reporting, 29 companies disclosed a shadow carbon price is being used in decision-making. The vast majority of these companies (27) are in the ASX100.

The integration of a carbon price by Australia's largest listed companies, despite no national price on carbon, clearly demonstrates they predict the emergence of domestic and international carbon prices over time, such as the European Union's Carbon Border Adjustment Mechanism. Global markets and international policy signals mean companies must consider how to plan for different low carbon futures and changing regulatory environments.

It also shows how companies, having set emissions reduction targets and integrated climate change into business strategies, are aiming to allocate capital efficiently and in line with their stated objectives. This is important because investors need to know:

- Companies are ensuring that investment, capital expenditure, acquisitions and the like are resilient to low carbon scenarios which see carbon intensive assets penalised;
- Capital is deployed efficiently and meeting expected return profiles under low carbon scenarios; and

- The business is motivated and incentivised to pursue decarbonisation projects.

According to the IIGCC Net zero Stewardship Toolkit², for investors to assess a company's capital allocation as 'aligned' the following need to be in place:

- Generating and disclosing 'green revenues' and their share in overall sales;
- Targets to increase the share of 'green revenues' in overall sales;
- Capital expenditure plans set out consistent with decarbonisation strategy, with disclosed methodology; and
- Disclosed and rapidly reducing investment in fossil fuel-based assets and disclosed investment in 'green' energy capacity.

Companies that disclose a shadow carbon price forms part of their assessment are shown in the table below which includes details of the carbon prices used. What the below table shows us is that in many cases businesses are planning for a variety of low carbon scenarios by using a range of carbon prices, and that further into the decade companies are planning for carbon prices to increase. It also shows that global businesses are assessing carbon prices on a regional basis and in some cases, like CSL, are already incurring a carbon price in one or more markets in which they operate.

² <https://www.iigcc.org/download/iigcc-net-zero-stewardship-toolkit/?wpdmdl=5708&refresh=629de6a5ae71f1654515365>.

Disclosed carbon prices for investment decision making by companies

Company	Carbon price details
AGL Energy Limited	Stated it is using a carbon price, but figure is not disclosed.
Ampol Limited	Stated it is using a carbon price, but figure is not disclosed.
AMP Group	Used in managed equity portfolio \$25/tCO ₂ -e, \$50/tCO ₂ -e and \$100/tCO ₂ -e.
BHP Group Limited	\$80 hurdle rate/t CO ₂ . BHP uses a range of carbon prices in investment considerations (up to \$US200 in its Deep Green scenario). Disclosure shows the highest ambition long run price is US\$40/t CO ₂ e in 2030 for the mid case, with forecast carbon prices to reach between US\$10-40/t CO ₂ e in 2030 in the Central Energy View and US\$25-110/t CO ₂ e in 2030 in the Lower Carbon View.
Boral Limited	A\$107 and A\$130 /tCO ₂ -e.
Beach Energy Limited	\$50/tCO ₂ -e in 2030 & \$70/tCO ₂ -e in 2040.
BlueScope Steel Limited	Uses the range that is disclosed in its scenario analysis - range for 2025 US\$20-90, range for 2050 US\$50-400.
Coles Group Limited	Uses a range of A\$25 to A\$80/tCO ₂ -e.
CSL Limited	\$US98/t (Actual carbon price, used only in Switzerland due to carbon taxing regime).
Fortescue Metals Group Ltd	Uses a range of A\$25 to A\$80/tCO ₂ -e.
GPT Group	AU\$20 to AU\$150/tCO ₂ .
IGO Limited	A\$60/tCO ₂ -e.
Incitec Pivot Limited	Price used in FY21 was A\$20/tCO ₂ -e which will increase to A\$50 by 2025, A\$65 by 2030 and A\$140 by 2050.
Lendlease Group	Uses a range which includes \$20, \$100, \$140/tCO ₂ -e.
Mineral Resources Limited	Range of carbon prices are used including US\$50-100/tCO ₂ -e.
Newcrest Mining Limited	Two prices are used, including \$25/t and \$50/t CO ₂ -e for jurisdictions where there are no regulated carbon prices.
Northern Star Resources Ltd	Stated it is using a carbon price, but figure is not disclosed.
Origin Energy Limited	Carbon price up to \$80/tCO ₂ -e.
OZ Minerals Limited	Stated it is using a carbon price, but figure is not disclosed.
Qantas Airways Limited	Stated it is using a carbon price, but figure is not disclosed.
Rio Tinto Limited	\$US75/tCO ₂ -e internal carbon price, but also uses prices ranging from \$US0 to US\$130 across scenarios.
South32 Limited	\$US40/tCO ₂ -e and S32 stress tests for different outcomes using carbon price of US\$100 per tonne in a lower than 2°C scenario and US\$160 per tonne in a 1.5°C scenario.
Scentre Group	\$30/tCO ₂ -e.
SkyCity Entertainment Group Limited	\$25/tCO ₂ -e.
Santos Limited	\$US50/tCO ₂ -e (nominal) from 2030.
Suncorp Group Limited	US\$38/tCO ₂ -e, effective 1 July 2021.
Viva Energy Group Limited	Stated it is using a carbon price, but figure is not disclosed.
Wesfarmers Limited	\$19/tCO ₂ -e for the short term, \$85/tCO ₂ -e for the long term.
Woodside Petroleum Limited	US\$80/tCO ₂ -e.

Scope 3 emissions reduction targets

Emissions sitting within company supply chains (Scope 3) continue to be one of the least-developed areas of target setting, as these emissions are not within a company's operational control and are often dependent on changing consumer sentiment or technological breakthroughs.

Scope 3 emissions refers to a company's indirect emissions, i.e., those that sit within their value chain, that results from activities related to the company. There is a wide range depending on the sector. The GHG Protocol defines 15 distinct Scope 3 reporting categories that can be found [here](#).

Despite the challenges, it is increasingly clear companies cannot ignore scope 3 emissions. Investors expect meaningful action to reduce exposures such as of the setting of targets, technology milestones, research and development, partnerships with customers and agreements to develop sites and technologies. It is important for companies to measure Scope 3 emissions and disclose to investors how they are managing the risks or developing opportunities. This disclosure provides investors a range of insights, for example, how products and services can meet, or could be at risk of, changing customer demand for low carbon solutions. Inadequate management of scope 3 emissions could see demand destruction for a specific product if other lower carbon alternatives emerge.

Setting of Scope 3 targets and milestones is a complicated process and may rely on actions (such as investment from customers, new markets or technologies) outside a company's operational control. Despite these challenges, many ASX200 companies have begun to develop strategies and set targets to reduce Scope 3 emissions. In this year's analysis we found 93 companies providing Scope 3 emissions data which makes it clear it is no longer in the 'too hard to measure' basket.

The below table captures the 28 companies that provided quantitative targets, activities or milestones disclosed around Scope 3 emissions. We note that some disclosures refer to a specific activity, as opposed to targets. These include commitments to new investment, research and development and memorandums of understanding.

Scope 3 targets set by companies

Company	Scope 3 target and actions
AGL Energy	AGL Australia: Net zero for Scope 1, 2 and 3 by 2040 with a 50 percent reduction on FY19 levels by 2030. Note: AGL Energy was included when the demerger and separate businesses were planned.
Ampol Limited	By 2025: Fuels and Infrastructure – reduce operational emissions intensity (CO ₂ -e per kl of high-value product) by 5% from 2021 levels. Convenience retail – reduce operational emissions on an absolute basis by 25% from 2021 levels. Renewable energy target – commit to 40% equivalent net renewable electricity for operational use. A Future Energy Strategy has been developed which has identified opportunities in electrification, hydrogen and other new products and solutions. An investment target has been set to a minimum \$100m spend to 2025.
Amcor Plc	Amcor's EnviroAction goal for GHG emissions aims to achieve a 60% reduction in GHG emissions intensity by 2030, inclusive of scopes 1, 2 and 3 (compared with 2006 baseline).
Australia & New Zealand Banking Group Ltd	Continuing to support diversified customers, which means ANZ will no longer bank any new business customers with material (10% of revenue) thermal coal exposures. Engaging with existing customers who have more than 50% thermal coal exposure to support existing diversification plans. Where these are not already in place, ANZ will expect specific, time-bound and public diversification strategies by 2025. Not directly financing any new coal-fired power plants or thermal coal mines (35% thermal coal reserves or production) including expansions. Existing direct lending will run off by 2030.
Bega Cheese Limited	By 2022 complete engagement with material customers and suppliers to understand scope 3 supply chain emissions and where reduction opportunities exist.
BHP Group Limited	40% reduction of emissions intensity in shipping, support tech development and pathways to reduce emissions intensity in integrated steelmaking. Net zero operational emissions by its direct suppliers and from maritime transport of its products (Sc 3) and goal of net zero scope 3 emissions.
Boral Limited	Reduce absolute Scope 3 emissions by 22%.
Commonwealth Bank of Australia	Reduce Scope 3 emissions by 12.5% and finance \$15 billion of low carbon projects by 2025. Reduce Scope 3 emissions by 25% by 2030 and a view to exiting the sectors [thermal coal mining and generation] by 2030, subject to Australia having a secure energy platform.
CIMIC Group Limited	Net zero Scope 3 by 2045.
Cochlear Limited	50% reduction in business flight-related emissions by FY25 and 20% reduction in business flights per FTE by 2025.
Domino's Pizza Enterprises Limited	Reduce scope 3 emissions 40% by 2035.

Company	Scope 3 target and actions
Fortescue Metals Group Ltd	15mn tonnes of green hydrogen by 2030 to enable the Scope 3 targets. Enable emissions intensity of shipping FMG ores by 50% by 2030 on FY21 levels and enable emissions intensity reductions from steel making in FMG customers of 7.5% by 2030. Carbon neutrality in scope 3 emissions by 2040. Enable emissions intensity reductions from steel making in FMG customers by 100% by 2040 (Sc 3).
Fisher & Paykel Healthcare Corporation Limited	87% of suppliers by spend covering purchased goods and services and the use of sold products will have science-based targets by FY2024.
Lendlease Group	Absolute zero target applies to scope 1, 2 & 3 emissions
Lifestyle Communities Limited	Net zero by 2035 (Sc 1, 2 and 3).
National Australia Bank Limited	Capped thermal coal mining exposures at 30 September 2019 levels, and updated plans to reduce thermal coal mining exposures by 50% by 30 September 2026 and to be effectively zero by 30 September 2030, apart from residual performance guarantees to rehabilitate existing thermal coal mining assets. Capped oil and gas exposure at default at USD2.4bn and will reduce exposure from 30 September 2026 through to 30 September 2050, aligned to IEA NZE 2050. Will disclose an interim 2030 lending portfolio target in FY22.
News Corporation	Reduce absolute scope 3 GHG emissions 20% by FY30.
Origin Energy Limited	25% reduction in Scope 3 emissions, incurred in the transport of energy to end users by 2032.
REA Group Ltd	25% reduction in scope 3 emissions by 2030.
Rio Tinto Limited	Scope 3 includes technology for reduction in steelmaking carbon intensity of at least 30% by 2030, Elysis reach commercial maturity in 2024. Scope 3 breakthrough technology by 2050, and net zero emissions from shipping products by 2050.
Shopping Centres Australasia Property Group	Work with our retailer partners and anchor tenants to find ways to help them reduce scope 3 emissions.
SEEK Limited	Net zero emissions (scope 1,2 and 3) by 2030.
Block Inc (Formerly Afterpay)	Reach net zero carbon for operations by 2030, including scope 1, 2 and 3 emissions for all brands.
Santos Limited	Scope 3 target to reduce customer emissions by 1.5 million tonnes of CO ₂ e per annum, dependent on a new energy market to emerge.
Transurban Group	Reduce the carbon intensity of major projects by 55% by 2030 (Scope 3 tCO ₂ -e from major projects, per \$M project capital cost). Reduce the carbon intensity of purchased goods and services by 22% by 2030 (Scope 3 tCO ₂ -e from supplier spending, per km travelled on its roads as a measure of business output).
Unibail-Rodamco-Westfield	100% development projects integrating a circular economy design solution and include long-term climate risks like minimising resource use by 2025.
Virgin Money UK PLC	Reducing carbon emissions across financing activities by at least 50% by 2030 (Scope 3).
Westpac Banking Corporation	Scope 3 – Supply Chain emissions by 35% by 2030 from 2016 base year. Reduce exposure to thermal coal mining to zero by 2030.
Worley Limited	Net zero by 2030 for Scope 1, 2 and 3 emissions.
Woolworths Group Limited	Reduce absolute Scope 3 greenhouse gas emissions by 19 per cent by 2030 from a 2015 base year (SBT).

Science-based and 1.5°C alignment is the expectation.

As more and more companies set targets and develop decarbonisation pathways, investors are now asking focused on two questions:

- 1) Is the company's pathway informed by a science-based decarbonisation target and aligned to the Paris Agreement?
- 2) Are the targets and ambition aligned to holding warming to 1.5°C?

We are seeing an increased focus from investors asking companies to verify and demonstrate how their targets are science based and aligned to holding warming to 1.5°C. The latter part of this expectation – holding warming to 1.5°C – is presenting an interesting conundrum. As of 2022, the Intergovernmental Panel on Climate Change (IPCC) assessed global heating to have reached 1.1°C above pre-industrial levels. With each update we can see how far off course the global economy is and with each update where warming continues, we see how even small movements further away from 1.5°C increases and compounds the catastrophic physical impacts we are already seeing today.

The Paris Agreement emphasises holding warming to well-below 2°C with the ambition of 1.5°C. Throughout our engagement and assessment of decarbonisation pathways we are seeing a bifurcation in what Paris Alignment means between companies and broader stakeholders. Companies are increasingly viewing targets that result in a below 2°C outcome as Paris-aligned enough to warrant acceptance by external stakeholders. We

believe the discourse around what constitutes a Paris-aligned outlook has moved beyond this point, with well below 2°C viewed merely as an entry point, and 1.5°C alignment as a requirement. We believe if companies do not increase ambition and target setting to align to the ultimate goal of the Paris Agreement – 1.5°C – they risk being viewed as a 'climate laggard', increasing the likelihood of punitive consequences to the company's reputation and social licence.

The discourse has moved beyond well-below 2°C, investors and stakeholder expectations are that Paris-alignment means decarbonisation targets that hold warming to 1.5°C.

The ability to test the veracity of climate targets is an emerging issue. In current reporting we see a clear gap in the market around companies being able to articulate how the targets they have set, and the methodologies used to establish the assessment, are considered science based and aligned to 1.5°C. We expect the issue of setting science-based targets to gain momentum noting that several hard to abate sectors are yet to develop sector-specific pathway methodologies.

Across the ASX200 we found 36 companies emphasising one or more of their targets set are 'science-based' with many utilising the Science-Based Targets Initiative (SBTi) as an external accreditation body. There are also a further 11 companies that have flagged they are either committed to setting a science-based target or reviewing how they can develop one.

Companies that have set science-based targets in the ASX200

Companies with a 'science-based' target		Companies reviewing or committed to a 'science-based' target
Auckland International Airport Limited	Insurance Australia Group Limited	ADBRI Limited
ALS Limited	Inghams Group Limited	Aristocrat Leisure Limited
Atlas Arteria	Mineral Resources Limited	ASX Limited
Amcor Plc	Metcash Limited	Bega Cheese Limited
AMP Limited	National Australia Bank Limited	Commonwealth Bank of Australia
Australia & New Zealand Banking Group Ltd	NIB Holdings Limited	Costa Group Holdings Limited
BHP Group Limited	News Corporation	Domino's Pizza Enterprises Limited
Boral Limited	Origin Energy Limited	IRESS Limited
BlueScope Steel Limited	Orica Limited	SEEK Limited
Charter Hall Group	QBE Insurance Group Limited	Santos Limited
Charter Hall Long Wale REIT	REA Group Ltd	Worley Limited
Chorus Limited	Rio Tinto Limited	
Charter Hall Retail REIT	Sims Limited	
Downer EDI Limited	SkyCity Entertainment Group Limited	
Dexus	Spark New Zealand Limited	
Fletcher Building Limited	Block Inc (Formerly Afterpay)	
Fisher & Paykel Healthcare Corporation Limited	Suncorp Group Limited	
	Unibail-Rodamco-Westfield	
	Woolworths Group Limited	

Climate targets and remuneration

As companies begin to set short- and medium-term targets, ACSI has also seen an increase in the number of companies linking targets into short- or long-term incentives. For many carbon-intensive businesses climate change strategy is fundamental to business strategy. For this reason, it is increasingly important for investors to understand how management teams are being incentivised to drive this change given its inherent link to value protection and creation. As more detailed business-level commitments emerge, ACSI expects to see more companies to integrate decarbonisation and transformational targets into incentive structures.

Action on climate change has different levers depending on the industry. We found 38 companies within the Materials, Energy & Utilities, Industrials, Health Care, Real Estate, Financials and Consumer Discretionary sectors had integrated sector-relevant metrics into their executive remuneration. This was predominantly done via integration into the short-term incentive (STI), however we did see instances of integration into the long-term incentive (LTI) or standalone equity grants.

The below table highlights targets within executive incentives where the metric relates to climate change action, (strategic, new revenues, climate roadmap, sustainable fuels increase, and GHG emissions for example).

ASX200 - Integration of climate specific targets into remuneration:

Note: STI is the short-term incentive and LTI is the long-term incentive.

Company Name	Hurdle and/or focus	Weighting/placement
ADBRI Limited	Sustainable growth – increased RDF use at Birkenhead. Sustainable growth – Carbon emission. Reporting of a carbon reduction roadmap to the Board with a reduction in scope 1 and 2 emissions from 2019.	STI - A component of the sustainability KPI that has a total weighting of 20%.
AGL Energy Limited	Carbon transition metrics includes intensity, renewable and storage capacity and green and carbon neutral products.	LTI – Standalone hurdle 33% weighting.
Ampol Limited	Evolve the energy offer for customers - Energy and Decarbonisation strategies and investing in future energy solutions for customers.	STI – a part of the KPIs that make up the 'Business Area Strategic Priorities' component amongst other hurdles with a total weighting of 35%.
ALS Limited	Includes emissions management for specific roles and sites.	STI – 7.5-10% weighting to sustainability objectives.
Ansell Limited	ANN has introduced unspecified ESG goals for FY22, this will include emissions targets.	STI – within the ESG component for FY22 that has a total weighting of 30%.
APA Group	Growth & Innovation requires a refresh of Australian strategy, including a focus on electrification as a sub-indicator of this metric. Customer & Stakeholder Management requires progress on APA's sustainability roadmap which includes emissions reductions.	STI - Growth & Innovation has a total weighting of 20%. Customer & Stakeholder Management has a 10% weighting.
Alumina Limited	ESG objectives includes the assessment of the quality of the AWAC's risk management approach to climate change and review of the technology projects and carbon reducing options.	STI – ESG objectives include a range of metrics and has a total weighting of 20%.
Aurizon Holdings Limited	Deliver AZJ's climate and ESG response plan.	STI – Part of the individual objectives that relate to ESG including climate with total weighting of 30%.
BHP Group Limited	Achieving emissions reductions, formalising the decarbonisation pathway and incorporating it into capital allocation, and putting in place two climate-related partnerships with steelmaking customers.	STI – 25% of the CEO's STI covers Health, Safety, Environment and Community (HSEC) measures with a weighting of 25%, within that 10% relates to climate.
BlueScope Steel Limited	GHG emissions intensity improvements & low carbon strategy development for Port Kembla.	STI – within the sustainability component with a 15% weighting.
Dexus	Performance relative to four ESG benchmarks: PRI, GRESB, DJSI and CDP.	STI – within the Environment category with a weighting of 5%.

Company Name	Hurdle and/or focus	Weighting/placement
Evolution Mining Limited	Progress on Sustainability Targets including Scope 1+2 emissions, water security and community plans (including first nations peoples).	STI - within the Strategic component category with a 30% weighting.
Fortescue Metals Group Ltd	Includes green ammonia technology and transport, batteries on long-haul trucks, trialling hydrogen fuel cell for drill rigs and trialling renewable energy in the Pilbara to create green iron.	STI – within the Strategic component for the CEO of Fortescue Future Industries with a 20% weighting.
Gold Road Resources Limited	Climate change risk management.	STI – A part of an ESG component with a 10% weighting.
Growthpoint Properties Australia	Includes Maintain average high NABERS ratings – Maintain high CDP and GRESB scores.	STI – Within a broader ESG category with various metrics with a weighting of 6%.
Ingenia Communities Group	Green home accreditation progressed. Environmental initiatives implemented.	STI – Considered within operational, systems and processes component, unclear weighting.
Incitec Pivot Limited	Includes GHG reduction targets.	STI – within the strategic objectives section that has a 20% weighting.
Lynas Rare Earths Limited	Non-financial component includes ESG measures which includes carbon management.	STI – within the non-financial component that has a 40% weighting.
Mirvac Group	Climate change, target: net positive carbon by 2030.	STI – in the sustainability component of the scorecard.
Mineral Resources Limited	Emissions intensity, strategy development and implementation.	STI – within the sustainability performance measures amongst other metrics, weighting of 20%.
Northern Star Resources Ltd	Reduce absolute carbon emissions.	LTI – 8-10% weighting just to emissions reductions.
Origin Energy Limited	Climate change Scope 1 equity emissions reduction (CO2-e) – short term target to reduce emissions, compared to FY2017 baseline.	STI – 10% weighting to just scope 1 emissions management. LTI – one of the principles considered within the 'lookback' indicators.
Orica Limited	Global Scope 1 and 2 GHG emissions reductions.	STI – 10% weighting to just emissions management.
OZ Minerals Limited	Emission reductions strategy and waste strategy.	STI – within the Government value section with a weighting of 10-16%.
Pilbara Minerals Limited	Evaluating the Pilgangoora Project's exposure to climate related risk; Implementing systems to monitor exposure to climate related risk, and Defining of Scope 1 and 2 emission reduction targets and developing strategies to achieve targets.	STI – 10% weighting to sustainability hurdles.
Rio Tinto Limited	Scope 1 and 2 abatement projects and the delivery of Scope 3 target milestones.	STI – 15% weighting to ESG metric, of which 5% is tied to environmental hurdles.
Regis Resources Limited	Environmental targets.	STI – 5-10% weighting.

Company Name	Hurdle and/or focus	Weighting/placement
South32 Limited	Scope 1 and 2 reductions Define our public target and glidepath narrative and progress the critical decarbonisation studies, energy planning and offsets approach.	STI – part of the sustainability component with a 25% weighting.
Scentre Group	Develop a pathway and transition plan to achieve net zero emissions by 2030 on wholly-owned portfolio – Pathway and transition plan developed, including a plan to reduce our emissions by more than 50% by 2025 – Transitioned our New Zealand portfolio to 100% renewable electricity from January 2022.	STI – 5% weighting
Sandfire Resources Limited	Targets are aligned to the six priorities of Sandfire's Sustainability Strategy 7 detailed in the sustainability report p34 which includes climate response.	STI – Sits within the ESG scorecard component that has a 7.5% weighting.
Stockland	Fast track climate action.	STI – within the business priorities component, unclear weighting.
Santos Limited	Year on year GHG reduction to meet 2025 target. Low Carbon Growth Projects (FID on the Moomba CCS project). Emissions reduction, net zero plans and energy transition (CCS operational targets, progress towards net zero Scope 1 and 2 operations emissions, new energy business development which supports Energy Transition, achieve significant progress on a commercial scale hydrogen or downstream clean fuels project).	STI – 5% allocation to emissions management and 7.5% allocation to low carbon growth projects. LTI – CEO growth incentive LTI will have a 40% weighting to emissions reduction, net zero plans and energy transition.
Unibail-Rodamco-Westfield	GHG Scope 1 and 2 emission reduction.	STI – within the CSR component with a 5% weighting.
Vicinity Centres	Includes sustainability and climate credentials.	STI – within an ESG category containing different metrics with a total weighting of 30%.
Westpac Banking Corporation	Developing ESG plan, with particular focus on developing approach to climate change and plans to reach net zero.	STI – part of the non-financial measures that support Westpac's strategic priorities.
Wesfarmers Limited	Emissions reduction targets.	STI – within the sustainability component with a 10% weighting.
Woodside Petroleum Limited	Emissions abated against year-end target.	STI – within the material sustainability issues component with a 20% weighting.
Waypoint REIT Limited	Set carbon reduction strategy. Net carbon neutral target set and achieved.	STI – within the ESG component of the individual KPIs which make up 33%.

Transition risk scenario analysis: testing resilience to a low-carbon future

Scenario analysis is an important tool for understanding a company's resilience to a low carbon future. Scenario analysis can highlight how a company might absorb impacts from changes in demand, address increased carbon costs and whether it is able to pass through costs. Equally, it can also provide insights to companies on low carbon opportunities. Over the last 12 months, we have seen in focus from companies, investors and regulators that scenario analysis includes a 1.5 °C scenario within the cohort of scenarios used for testing.

Scenario analysis is now standard risk management

There are two trends in scenario analysis disclosures in the ASX200. The first is the ever-increasing number of companies using scenario analysis to assess how low carbon and high warming scenarios might affect business operations. This year almost half the index, 88 companies, completed scenario analysis, nearly 5 times the number of companies in 2018. This was largely made up of companies who have done scenario analysis and disclosed quantitative outcomes (net present value [NPV] or cash flow assessment), with a smaller number having conducting scenario analysis without providing quantification.

The second trend is that where scenario analysis has previously been conducted, companies have continued to refine and retest their business against emerging scenarios, including those holding warming to 1.5°C. We often see companies update their scenario analysis every few years, reassessing and recalibrating targets and strategy based on the new findings.

It is important that companies provide investors with an assessment of the financial impact of low carbon scenarios have on business models, and the drivers behind it, for investors to fully appreciate long-term risks and opportunities. The purpose of scenario analysis is to present investors with plausible and possible future low carbon states and to test the businesses resilience against this and discuss the findings with investors.

It is important to recognise that scenario analysis is not a forward-looking statement. In fact, many companies in preparing scenario analysis emphasise this point clearly in their disclosure. As businesses increasingly integrate climate strategy with corporate strategy, concerns regarding forward-looking statements are covered within existing regulatory guidance, which makes it clear that preparers are unlikely to be found liable for misleading or deceptive forward-looking statements provided the statements are properly framed, they have a reasonable basis (which includes good governance at board level to sign off the statements) and there is ongoing compliance with disclosure obligations when circumstances change.

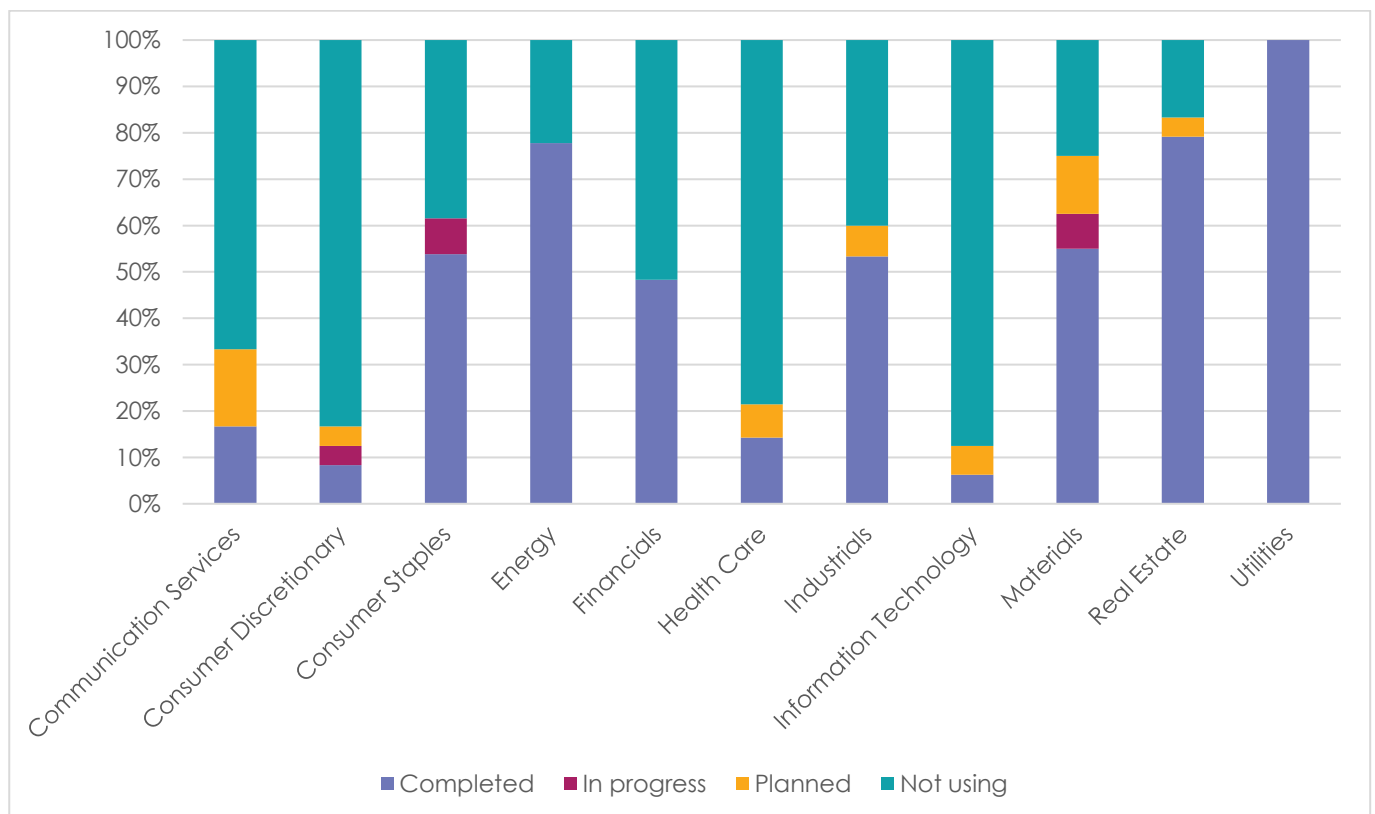
We expect within the next 12 months that the number of companies undertaking scenario analysis will be the majority of the ASX200, as a further 17 companies flag scenario analysis is either planned or in progress.

As shown in Graph 6, sectors with a greater exposure to transition risk have naturally had a larger cohort of companies undertaking scenario analysis by stress testing impacts against different carbon trajectories. The industries where more than half have done so include Consumer Staples (54%), Energy (78%), Utilities (100%), Industrials (53%), Materials (55%) and Real Estate (79%).

As noted earlier, investors now expect companies to assess resilience to 1.5°C and use this to inform strategy and targets. Despite almost half the index having completed, or currently undertaking, scenario analysis, only 44% have used, or plan to use, a 1.5°C scenario. Pleasingly, this increases to 86% when looking at 'all below 2°C' scenarios. As companies undertake a range of scenarios there is an increase in the prevalence of companies conducting both a 1.5°C and below 2°C scenarios alongside business-as-usual or high warming scenarios.

There are still major gaps in reporting. More than half of ASX200 companies have not demonstrated assessment against a 1.5°C scenario. This lack of disclosure suggests that many businesses may not be prepared for a low-carbon transition and we may see an added regulatory or 'social licence' risks for companies who cannot demonstrate and articulate alignment to 1.5°C in future.

Graph 6: Scenario Analysis adoption by sector



As noted above, close to one-third of companies which completed scenario analysis did not provide quantitative disclosure of the results. These companies discussed the trends observed in the scenarios and how they apply to the business. Where financial analysis is disclosed, the most common way is through a portfolio NPV analysis.

We expect these disclosures to develop over time, as investors are often seeking asset level disclosures, which give greater insight into the assets and operations more highly exposed. This trend is important because as companies prioritise their response to climate change, investors need to understand how they are deploying capital efficiently and to the areas of the business where it is most material.

Common indicators sought by investors in climate scenario analysis:

- Disclosure against a 1.5°C scenario, including the underpinning assumptions.
- A mix of qualitative discussion and financial impact quantification.
- Quantification at a portfolio level, as well as at an asset specific level when a specific asset or operation is highly exposed. Where possible this should be done on core assets whilst also looking ahead to the opportunities the company can capitalise on.
- Information on how cashflows could be impacted by demand and supply changes, abatement and carbon costs, and how these would affect specific projects and business divisions is useful to understanding the company's strategic risks.

Table 5: Companies with Paris-aligned scenario analysis

Paris Aligned Scenarios	Company name
1.5°C	AGL Energy Limited, Allkem Limited, Ansell Limited, APA Group, ASX Limited, BHP Group Limited, Blackmores Limited, Boral Limited, Bank of Queensland Limited, BlueScope Steel Limited, Brambles Limited, Costa Group Holdings Limited, CSR Limited Cleanaway Waste Management Limited, Dexs, Fisher & Paykel Healthcare Corporation Limited, Insurance Australia Group Limited, Inghams Group Limited, Incitec Pivot Limited, Lendlease Group, Mirvac Group, Mineral Resources Limited, Macquarie Group Limited, Metcash Limited, National Australia Bank Limited, Origin Energy Limited, OZ Minerals Limited, Scentre Group, Santos Limited, South32, Transurban Group, United Malt Group Limited, Viva Energy Group Limited, Westpac Banking Corporation, Wesfarmers Limited, Worley Limited, Woolworths Group Limited, Woodside Petroleum Limited.
Well-below 2°C	ADBRI Limited, AGL Energy Limited, Allkem Limited, AMP Limited, Australia & New Zealand Banking Group Ltd, Alumina Limited, Aurizon Holdings Limited, Brickworks Limited, Bank of Queensland Limited, Beach Energy Limited, BlueScope Steel Limited, BWP Trust, Brambles Limited, Challenger Limited, Charter Hall Group, Centuria Industrial REIT, Charter Hall Long Wale REIT, Centuria Capital Group, Coles Group Limited, Charter Hall Retail REIT, Fletcher Building Limited, Fortescue Metals Group Ltd, Goodman Group, Gold Road Resources Limited, Growthpoint Properties Australia, GPT Group, Mineral Resources Limited, National Australia Bank Limited, Newcrest Mining Limited, NIB Holdings Limited, Northern Star Resources Ltd, Orica Limited, Pilbara Minerals Limited, Qantas Airways Limited, QBE Insurance Group Limited, Rio Tinto Limited, South32 Limited, Scentre Group, Sims Limited, Stockland, The Star Entertainment Group Limited, Santos Limited, Telstra Corporation Limited, Treasury Wine Estates Limited, Unibail-Rodamco-Westfield, Westpac Banking Corporation, Whitehaven Coal Limited, Worley Limited, Woodside Petroleum Limited.

Emerging Reporting Trends: IFRS-ISSB

This research was conducted under the backdrop of developments in climate reporting standards across the globe. One recent development in the reporting landscape was the development of the ISSB and the issuing of the Draft IFRS S2, Climate-related Disclosures in the wake of COP26. These standards are a draft set of requirements for climate-related disclosures that could form a global baseline for disclosures. The emergence of the ISSB standards highlights the fact that while reporting has improved significantly between 2017 and 2022, investors need more decision-useful climate-related information to adequately integrate into assessments of enterprise value over the short, medium and long term.

Draft IFRS S2, has been designed to address four fundamental principles: consistency, completeness, comparability and verifiability. It is important the information disclosed to providers of capital uses consistent metrics and helps them assess climate risks and opportunities that impact:

- an entity's financial position and financial performance;
- the value, timing and certainty of the entity's future cash flows over the short, medium and long term (and, therefore, an assessment of enterprise value by users of general purpose financial reporting);
- the entity's response to climate-related risks and opportunities through its strategy and business mode

Challenges comparing scenario analysis

Part of the challenge outlined above is the wide range of scenarios used by Australian listed companies. This has included the use of scenarios from organisations like the International Energy Agency (IEA) but also includes bespoke or combined scenarios. This is largely because the global scenarios don't have the level of specificity required for Australian or regional characteristics and are not industry-specific enough to be informative.

Of those that have completed scenario analysis, or flagged ongoing work and disclosed the scenarios they intend to use, 27 companies used IEA-based scenarios or had used them as a part of the building blocks to develop a bespoke scenario. This means that close to 70% of the companies who have undertaken scenario analysis are using bespoke or hybrid scenarios. This creates a large amount of variety, and thus comparability challenges. When assessing the range of scenarios for various low and high levels of warming, we found 105 different scenarios used by ASX200 companies.

Engagement with investors in the Australian market as seen the following issues raised consistently:

- Difficulty comparing the resilience of companies even within the same sector.
- Lack of clarity over what inputs and assumptions are used and excluded.
- Lack of quantification as to how low carbon scenarios impact a company's financial position and performance and how it affects project, asset or business unit level.
- Insufficient detail as to how a company's future cash flows change over short, medium and long term time frames, which creates challenges for investors trying to understand impacts on enterprise value.
- Insufficient information on the company's response to climate risks, and how they can catalyse opportunities.

The table below presents the frequency at which the ASX200 reported against scenarios of different levels of warming as well as the sheer scale of different scenarios used. The table shows all scenarios reported in public disclosure, which includes those undertaken and those planned or in progress.

Notes: this table is cumulative and builds on each year of reporting to represent all scenarios that have been used, or are planned to be used, by companies. The table accounts for companies who have provided sufficient detail to plot the scenario to a level of warming, where this cannot be attained the company has not been plotted.

Table 7: Cumulative scenario analysis undertaken by ASX200 companies from FY19 to FY21 reporting.

Scenario reference		Comm. Services	Financials	Energy & Utilities	Consumer Staples	Healthcare	Materials	Real Estate	Consumer discretionary	Industrials	Information technology
1.5°C	RCP 1.9							DXS			
	RCP 2.6		AMP, CGF, IAG, NHF, QBE, MQG		CGC, TWE	CSL, CWY	MIN, NST, GOR, PLS	CHC, CLW, CQR, SGP, MGR, GMG, GPT, SCP, CIP, CNI, CQR, GOZ, GPT		CWY, DOW	
	IEA NZE 1.5°C			STO, WPL, WOR			BLD				
	IHS ACCS 1.5°C			STO							
	Climateworks Centre 1.5C All in scenario		NAB								
	1.5 °C Global Energy Monitor		NAB								
	'Gloves on' consistent with RCP2.6					ANN					
	Fast action 1.5°C						IPL				
	Early green 1.5°C						BSL				
	'1.5 degrees' *	NWS	ASX		UMG	BKL, FPH	CSR, CSR	GPT, LLC, SCG	WES	TCL, BXB	

Scenario reference		Comm. Services	Financials	Energy & Utilities	Consumer Staples	Healthcare	Materials	Real Estate	Consumer discretionary	Industrials	Information technology
	1.5°C 'All in'		NAB								
	1.5°C IPCC		WBC	AGL, APA,			S32				
	Dedication & delivery							DXS			
	Lower carbon view						BHP				
	Sectorial Decarbonization Approach to 1.5°C				WOW			DXS			
Below 2°C	IEA 1.5 °C (Reaches 1.65°C)			ORG							
	AEMO Step Change Scenario						AWC				
	Ambitious coordinated global action						AKE, ORI				
	IEA Below 2°C Scenario			BPT, STO, ALD			NCM, FBU				
	Ambitious, global, coordinated action						ORI				
	Proactive effort						NST				
	Beyond 2 degrees	NWS								QAN	
	Accelerated Action	TLS		AST							
	Aggressive mitigation			VEA							
	Sustainable scenario						RRL				

Scenario reference		Comm. Services	Financials	Energy & Utilities	Consumer Staples	Healthcare	Materials	Real Estate	Consumer discretionary	Industrials	Information technology
	Ambitious, coordinated global climate action						ORI				
	Sustainability scenario						BKW				
	'Below 2 °C' *			AGL, APA	COL			LLC, SCG			
	Rapid Transition						FMG				
	IEA Sustainable Development Scenario		MQG, NAB, WBC, ANZ	BPT, NHC, STO, WHC, WPL, WOR			ABC, ORI, RIO, NCM, AWC	GMG		AZJ, SYD	
	Renewable Energy Roadmap		WBC								
	Society 3.0						RIO				
	Rapid transition						FMG				
	Renewable energy scenario		WBC								
	'Hand in hand' consistent with RCP4.5					ANN					
	RCP 4.5 (IPCC)		CBA, BOQ, IAG, AMP, SUN			CSL	NST, OZL, GOR, PLS, RRL	URW, VCX			
	Global Cooperation			AZJ	CCL, CGC		BSL, S32	GMG			
2-3°C	IEA 450		ANZ								
	Globally Aligned carbon policy						BLD				

Scenario reference	Comm. Services	Financials	Energy & Utilities	Consumer Staples	Healthcare	Materials	Real Estate	Consumer discretionary	Industrials	Information technology
Rapid transition 2°C						FMG				
Climateworks Centre 2°C Innovate		NAB								
Required action						IPL				
Customer led						BSL				
Middle of the road scenario						RRL				
Global energy transformation (2°C ref IEA SDS scenario)						IGO				
Two speed world						BSL				
Investor and public persuasion						BSL				
Global energy transformation						IGO				
Central Energy View						BHP				
Bloomberg New Energy Finance						ORI				
Emergence of new regional powerhouse						ORI				
Divided world	TLS									
Regionally Differentiated carbon policy						BLD				
Security first scenario						BKW				

Scenario reference	Comm. Services	Financials	Energy & Utilities	Consumer Staples	Healthcare	Materials	Real Estate	Consumer discretionary	Industrials	Information technology
Passive response						NST				
Delay and disruption							DXS			
IEA 2°C Scenario			ORG, OSH, STO						AZJ, QAN	
IEA STEPS			WOR			NCM, ORI				
IEA stated policies		ANZ				ABC				
2°C 'Innovate'		NAB								
IEA New Policies (2.7 °C)		MQG, ANZ, NAB	APA, BPT, ALD, OSH, NHC, STO, WHC			ORI			AZJ	
Global Accord						BHP				
Sectorial Decarbonization Approach to 2°C				WOW			DXS			
'2 degree' *	NWS	QBE	AGL, COE	A2M, BKL		CSR, IPL, ILU, SBM, CSR	GPT, LLC, WES, BWP		TCL, BXB	
RCP 6.0 (IPCC)		AMP			CSL		DXS			
Lower carbon view						BHP				
Technology 4.0						RIO				
A New Gear						BHP				
Two Giants						BHP				
Coordinated Action						RIO				
3°C +	Patchy progress					BSL, S32, AKE				

Scenario reference		Comm. Services	Financials	Energy & Utilities	Consumer Staples	Healthcare	Materials	Real Estate	Consumer discretionary	Industrials	Information technology
	Current Government Policy (NDC)/IEA Current Policy			AGL, BPT, ALD, ORG, NHC, STO, WHC, ALD, AST			AGL			SYD	
	Current trajectory						IPL				
	Climate crisis						BHP				
	Division & deterioration							DXS			
	Disorganized mitigation			VEA							
	Fossil fueled growth sceario						BKW				
	'3 degree' *		ASX		A2M, BKL, UMG	ANN, FPH	CSR		WES		
	Limited mitigation			VEA							
	Accelerating transition						FMG				
	Slow transition						FMG				
	Changed climate	TLS									
	Regressive action						NST				
	Central energy view						BHP				
	Closed doors						BHP				
	Climate crisis scenario						BHP				
	Co-ordinated Action						RIO				

Scenario reference		Comm. Services	Financials	Energy & Utilities	Consumer Staples	Healthcare	Materials	Real Estate	Consumer discretionary	Industrials	Information technology
	IEA Reference Technology			STO						QAN	
	Reference Case						BLD				
	Society 3.0						RIO				
	Runaway climate change			AST			BSL, S32				
	Limited Action						RIO				
	Extreme climate change scenario						IGO				
	Global inaction						BSL				
	Accelerating transition						FMG				
	Worst case scenario						RRL				
	Slow transition						FMG				
	RCP 8.5		CBA, AMP, BO, CGF, IAG, NHF, QBE, SUN, MQG, WBC		CGC, TWE		NST, MIN, ABC, SBM, OZL, FBU, GOR, PLS, RRL	CHC, CLW, CQR, SGP, DXS, URW, GMG, GPT, SCP, VCZ, CIP, CMW, CNI, CQR, GOZ, GPT, VCX		SYD, AIA, CWY, DOW	
	'Too hot to handle' consistent with RCP8.5					ANN					
	Realpolitik 2.0						RIO				
	Widespread nationalistic economic policy						ORI				

Scenario reference		Comm. Services	Financials	Energy & Utilities	Consumer Staples	Healthcare	Materials	Real Estate	Consumer discretionary	Industrials	Information technology
	Extreme climate change (4°C ref IEA and IPCC pathways and based on RCP 6.0)						IGO				
	'4 degree'		ANZ	APA	BKL, ING		CSR, IPL, ILU	LLC, BWP, SCG	WES	TCL, BXB	

Notes for the above table: The table includes those undertaken or disclosed as in progress or planned and thus is more inclusive than the statistics quoted above.

* Denotes scenarios that did not provide a specific name to reference or used a combination of scenario families

Physical risk analysis: testing resilience

The IPCC sixth assessment report on climate change impacts, adaptation and vulnerability³ disturbingly illustrates the way physical climate-related impacts are more widespread and severe in nature today, and how they will be magnified if we do not halve emissions and rapidly increase adaptation this decade. At the current 1.1°C of warming, widespread droughts, extreme heatwaves and catastrophic flooding are already being experienced. This is a stark reminder that at least for the next couple of decades, significant and severe climate impacts are unavoidable in the short to medium term, as existing cumulative greenhouse gas emissions have built up within the atmosphere.

The IPCC's research highlights the impact of not holding warming to 1.5°C is multifaceted and creates a domino effect across all aspects of human life. The physical risks present socio-economic and regional disruption and instability, biodiversity loss, water scarcity and food security challenges, increases the likelihood of poor health and wellbeing, infrastructure damage and increased costs for resilience and repair. These risks together compound each other catalysing broad, wide ranging financial challenges that become more difficult to manage as each domino falls. The IPCC report highlights that every 0.1°C of additional warming will escalate the risk to people, species and ecosystems.

This also translates to significant financial risk for businesses. Businesses relying on natural capital, such as agriculture, marine life, or water, face a significant risk to their ability to operate as ecosystems and species collapse under new extreme weather patterns bringing extreme heat, drought, fires and changing water levels. The impacts of water availability are already becoming apparent, as some companies buy additional water for water intensive operations and social licence concerns are emerging as some companies use potable water ahead of the community.

Businesses with outdoor workforces, will be impacted by extreme weather events leading to unsafe work conditions and lost productivity from delays or disruptions in project delivery or operations.

The costs to company assets can be borne in many ways. For example, the cost of building resilience into existing assets or new designs or the costs of repairing damaged infrastructure or asset writedowns, in addition to the lost cashflows listed above.

These are just some examples of the cost of inaction to our economy and businesses. When assessing the cost of inaction Deloitte Access Economics estimates if climate change goes unchecked, the Australian economy will shrink by 6% and see \$3.4 trillion lost opportunity over the next half a century. This economic impact is on top of the cumulative and interlinked impacts that will breakdown the ecosystem supporting human life.

³ IPCC, sixth assessment report <https://www.ipcc.ch/report/ar6/wg2/>

(b) Observed impacts of climate change on human systems

Human systems	Impacts on water scarcity and food production				Impacts on health and wellbeing				Impacts on cities, settlements and infrastructure			
	Water scarcity	Agriculture/crop production	Animal and livestock health and productivity	Fisheries yields and aquaculture production	Infectious diseases	Heat, malnutrition and other	Mental health	Displacement	Inland flooding and associated damages	Flood/storm induced damages in coastal areas	Damages to infrastructure	Damages to key economic sectors
Global	+	-	○	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-
Asia	+	+	-	-	-	-	-	-	-	-	-	-
Australasia	+	-	+	-	-	-	-	not assessed	-	-	-	-
Central and South America	+	-	+	-	-	-	not assessed	-	-	-	-	-
Europe	+	+	-	+	-	-	-	-	-	-	-	-
North America	+	+	-	+	-	-	-	-	-	-	-	-
Small Islands	-	-	-	-	-	-	-	-	-	-	-	-
Arctic	+	+	-	-	-	-	-	-	-	-	-	+
Cities by the sea	○	○	○	-	○	-	not assessed	-	○	-	-	-
Mediterranean region	-	-	-	-	-	-	not assessed	-	+	-	○	-
Mountain regions	+	+	-	○	-	-	-	-	-	na	-	-

Excerpt: IPCC, Sixth Assessment Report, Climate Change 2022, Impacts, Adaptation and Vulnerability Summary for Policymakers, Page 12.

How the observed impacts of climate change on human systems, shown in above IPCC excerpt, compound various areas:

Single observed impact	How does the observed negative impact of heat, malnutrition and other create impact on human systems?	Cumulative impacts in other areas
'Heat, malnutrition and other' is observed to have a negative impact across all regions.		Increased mental health. Increased infectious disease. Fisheries yields and aquaculture production decreases. Animal and livestock health and productivity declines. Agriculture and crop production declines. Water scarcity becomes more severe.

Detailed physical risk analysis to an asset or jurisdiction level is growing.

Companies need to undertake and disclose qualitative and quantitative analysis, as well as adaptation plans on how they will build resilience into assets and operations.

In the ASX200, 41 companies have carried out and disclosed a detailed analysis of their physical risk assessments and started discussing with investors how they are addressing resilience and adaptation.

Some of the interesting disclosures we have identified over the years include:

- **Boral** highlighted water stress as a business impact from changing weather and environment, noting they are already seeing the impacts and needed to spend an additional \$1.7mn to purchase water to meet operational needs over a three-month period. Boral also experienced \$26mn EBIT impact from floods and bushfires. To provide investors with disclosure on how the business is impacted longer term under high levels of warming it provided the following disclosure regarding bushfires, drought and water stress, heatwaves, heavy rain and flooding and number of rain days and estimated the impact on EBIT.

RCP8.5 – 4°C global warming scenario in 2050

Cluster					
Sydney	●	●	●	●	●
Southern Highlands, NSW	●	●	●	●	●
Melbourne	●	●	●	●	●
South East Queensland	●	●	●	●	●
Perth	●	●	●	●	●
South Australia	●	●	●	●	●
Potential adverse EBIT impact	Significant	Modest to significant	Insignificant ¹	Neutral to positive impact	Neutral to positive impact

Excerpt: Boral 2021 Sustainability Report, page 40.

- **BlueScope Steel** assessed its physical risks at 61 sites against 2030-, 2050- and 2100-time horizons against soil movement, coastal inundation, flooding, fire and wind. From this analysis it provided investors with insights into

the frequency and intensity of particular weather-related risks, coupled with how BlueScope intends to respond to these risks.

BLUESCOPE'S RESPONSE

The results of this analysis will be used by our engineering teams to consider the vulnerability of specific assets to the identified exposures and adjust future capital works programs, if required. However, based on our current understanding, between now and 2050 we do not expect to spend significant capital to address the identified potential exposures.



Current actions

- » Continue to adhere to existing design and planning standards.
- » Continue to meet relevant building and infrastructure standards for each operation that already considers climate-related hazards.
- » Maintenance of assets aligned to asset management plans.
- » Routine monitoring systems as part of day-to-day operations focussing on structural integrity, changes or disruption (e.g. stockpile management, bunding).



Future actions

- » Revise asset management plans to take into account projected impacts. For example, monitor changes to building/infrastructure standards that take into account changes to hazards such as 1-in-100 year floods.
- » Identify potential controls that may be required to reduce projected impacts.
- » Monitor assets for potential climate-related impacts.
- » Incorporate outcomes into the Capital Allocation Framework.

As climate models continue to develop and refine regional and local climate projections, we will update our understanding of how our assets might be exposed to the physical impacts of climate change. In future years, we will extend this analysis to better understand the impacts across our supply chains.

BlueScope Climate Action Report 2021, page 37

- Climate risk and associated impacts on insurance and lending are increasingly becoming front of mind as we have seen bushfires and severe flooding across New South Wales and Victoria in particular from 2020 to 2022. For insurer, **Suncorp**, estimating and pricing in natural hazards is crucial to [Suncorp Climate Action Report 2021, page 60](#).

business sustainability, but is increasingly trending towards challenging affordability issues with re-insurance, which has significant societal impacts. In its physical risk analysis Suncorp highlights physical risks identified in home insurance, investment, SME and commercial insurance and lending.

Scenario analysis outcomes

Physical risk analysis	
Home insurance (FY20) <i>Insurance (Australia)</i>	Over the medium term (the next 10 years) the increase in the combined, all-hazards AAL to the existing built environment due to climate change is expected to be less than 10%, which may be within the variability of existing natural hazard assumptions. Overall, climate-related risks continue to be managed by reinsurance and natural hazard pricing. See page 57.
Home insurance (FY20 & FY21) <i>Suncorp New Zealand</i>	Suncorp New Zealand's exposure to water-related perils over the medium term is low, though risks are not uniform across geographies and perils. Storm risk is currently the most significant driver of AAL. The analysis projects that under an extreme scenario, riverine flooding becomes a more significant driver of AAL than storm. The initial analysis undertaken for Suncorp New Zealand represents a strong foundation upon which to build. Some limitations exist in the analysis that warrant further investigation, including the influence of local risk mitigation over the medium term.
Investments (FY20) <i>Group Investments</i>	The physical risks associated with investments is low based on the asset allocations, e.g. government bonds and corporate credit.
SME & Commercial Insurance (FY21) <i>Insurance (Australia)</i>	Suncorp's SME and Commercial Property exposure to changes in climate-related risks is low. Notably, our exposure to flood risk in the SME portfolio is very low. The low exposure results from the significant controls, risk limits and low underwriting appetite for flood risk in this portfolio. Because of this practice, customers and other commercial organisations will be accepting higher levels of flood risk.
Lending (FY20 and FY21) <i>Suncorp Bank</i>	Over the short to medium term the Bank's exposure to climate change risk remains low. We have prudent lending practices in place, with appropriate controls designed to ensure the Bank does not assume unintended risks. Further to the Insurance (Australia) analysis, we will investigate the implications of potential flood and other natural hazard risks on our banking portfolio. Insurance cover is a useful risk management tool to ensure the sustainability of Suncorp's banking customers. Ensuring appropriate insurance cover is in place is paramount to the Bank continuing to support its customers.

Appendix

Emissions reduction targets set by the ASX200, company-by-company table:

Note: NZT denotes where the net zero target is counted.

Company	Short term target (to 2025)	Medium term target (2026-2039)	Long term target (2040+)	Net zero target year
Life360 Inc	No	No	No	No
The a2 Milk Company Limited	No	Yes	Yes	Operational: 2030 Scope 3: 2040
ADBRI Limited	Yes	Yes*	Yes	2050
Abacus Property Group	Yes	No	Yes	2050
AGL Energy Limited Note: AGL Energy was included when the demerger and separate businesses were planned.	Yes	Yes	Yes	2047
Auckland International Airport Limited	No	Yes	No	2030
Allkem Limited	No	Yes	No	2035
Ampol Limited	Yes	Yes	Yes	2040
Aristocrat Leisure Limited	No	No	No	No
ALS Limited	Yes	Yes	No	No
Altium Limited	No	No	No	No
Atlas Arteria	Yes	Yes	No	No
Amcor Plc	No	Yes	No	2050
AMP Limited	No	Yes	Yes	2050
Ansell Limited	Yes	No	No	No
Australia & New Zealand Banking Group Ltd	Yes	Yes	Yes	2050
APA Group	No	No	Yes	2050
Eagers Automotive Limited	No	No	No	No
Appen Limited	No	Yes	No	2030
ARB Corporation Limited	No	No	No	No
Arena REIT	No	No	No	No
ASX Limited	Yes	No	No	2025
AUB Group Limited	No	No	No	No
Alumina Limited	Yes	Yes	Yes	2050
Aurizon Holdings Limited	Yes	Yes	Yes	2050
Bapcor Limited	Yes	No	No	No
Bendigo and Adelaide Bank Limited	Yes	Yes	No	No
Bega Cheese Limited	Yes	Yes	Yes	2050
BHP Group Limited	Yes	Yes	Yes	2050
Blackmores Limited	Yes	Yes	No	2030
Brickworks Limited	Yes	Yes	No	No
Boral Limited	Yes	Yes	Yes	2050
Bank of Queensland Limited	Yes	No	No	No
Beach Energy Limited	No	Yes	Yes	2050
Breville Group Limited	No	No	No	No
BlueScope Steel Limited	Yes	Yes	Yes	2050

BWP Trust	No	No	No	No
Brambles Limited	Yes	No	No	2025
Carsales.com Limited	Yes	No	No	No
Commonwealth Bank of Australia	Yes	Yes	Yes	2050
Credit Corp Group Limited	No	No	No	No
Codan Limited	No	No	No	No
Costa Group Holdings Limited	No	No	Yes	2050
Challenger Limited	No	No	No	No
Charter Hall Group	Yes	Yes	No	2030
Chalice Mining Limited	No	No	No	No
Champion Iron Limited	No	No	No	No
CIMIC Group Limited	Yes	Yes	Yes	2038
Centuria Industrial REIT	No	No	No	No
Collins Foods Limited	No	Yes	No	No
Charter Hall Long Wale REIT	Yes	Yes	No	2030
Cromwell Property Group	Yes	Yes	Yes	2050
Centuria Capital Group	No	No	No	No
Chorus Limited	No	Yes	No	No
Cochlear Limited	Yes	Yes	No	No
Coles Group Limited	Yes	Yes	Yes	2050
Computershare Limited	No	No	No	No
Charter Hall Retail REIT	Yes	Yes	No	2030
CSL Limited	No	No	No	No
CSR Limited	No	Yes	No	No
Corporate Travel Management Limited	Yes	No	No	No
Clinuvel Pharmaceuticals Limited	No	No	No	No
Crown Resorts Limited	No	No	No	No
Cleanaway Waste Management Limited	No	No	No	No
Domain Holdings Australia Limited	No	No	No	No
Domino's Pizza Enterprises Limited	Yes	Yes	Yes	2050
Downer EDI Limited	No	Yes	Yes	2050
Deterra Royalties Limited	Yes	No	No	2022
Dexus	Yes	Yes	No	2022
Endeavour Group Limited	No	Yes	Yes	2050
Elders Limited	Yes	Yes	Yes	2050
EML Payments Limited	No	No	No	No
Evolution Mining Limited	Yes	Yes	Yes	2050
Event Hospitality and Entertainment Ltd	No	No	No	No
Fletcher Building Limited	No	Yes	No	No
Flight Centre Travel Group Limited	No	No	No	No
Fortescue Metals Group Ltd	Yes	Yes	Yes	2040
Fisher & Paykel Healthcare Corporation Limited	Yes	Yes	Yes	No
Goodman Group	Yes	No	No	2025
Graincorp Limited	No	No	No	No
Gold Road Resources Limited	No	No	Yes	2050
Growthpoint Properties Australia	Yes	No	No	2025
GPT Group	Yes	Yes	No	No
GUD Holdings Limited	No	No	No	No

Healius Limited	No	No	No	No
HUB24 Limited	No	No	No	No
Harvey Norman Holdings Ltd	No	No	No	No
Insurance Australia Group Limited	Yes	Yes	Yes	2050
IDP Education Limited	No	No	No	No
Insignia Financial Ltd	No	No	No	No
IGO Limited	Yes	Yes	No	2035
Iluka Resources Limited	No	No	Yes	2050
Imugene Limited	No	No	No	No
Ingenia Communities Group	Yes	Yes	No	2035
Inghams Group Limited	No	Yes	No	No
IPH Limited	No	No	No	No
Incitec Pivot Limited	Yes	Yes	Yes	2050
IRESS Limited	No	No	No	No
InvoCare Limited	No	No	No	No
JB Hi-Fi Limited	No	Yes	No	2030
Janus Henderson Group PLC	Yes	No	No	No
James Hardie Industries Plc	No	Yes	No	No
Kelsian Group Limited	No	No	No	No
Lifestyle Communities Limited	No	Yes	No	2035
Lendlease Group	Yes	No	Yes	Net zero: 2025 Absolute zero: 2040
Link Administration Holdings Limited	Yes	Yes	No	2030
Liontown Resources Limited	Yes	Yes	No	2034
Lynas Rare Earths Limited	No	No	No	No
Magellan Financial Group Limited	No	No	No	No
Mirvac Group	Yes	Yes	No	2030
Mineral Resources Limited	No	No	Yes	2050
Megaport Limited	No	No	No	No
Medibank Private Limited	No	No	No	No
Macquarie Group Limited	Yes	No	Yes	2050
Mesoblast Limited	No	No	No	No
Metcash Limited	Yes	Yes	No	No
National Australia Bank Limited	Yes	Yes	Yes	2050
Nanosonics Limited	No	No	No	No
Newcrest Mining Limited	No	Yes	Yes	2050
Nine Entertainment Co. Holdings Limited	No	No	No	No
NIB Holdings Limited	Yes	No	Yes	2050
Nickel Mines Limited	No	No	No	No
National Storage REIT	No	No	No	No
Northern Star Resources Ltd	No	Yes	Yes	2050
Nufarm Limited	No	Yes	No	No
NOVONIX Limited	No	No	No	No
Netwealth Group Limited	No	No	Yes	No
News Corporation	No	Yes	Yes	2050
NEXTDC Limited	No	No	No	No
Orora Limited	Yes	Yes	Yes	2050
Origin Energy Limited	Yes	Yes	Yes	2050
Orica Limited	No	Yes	Yes	2050
OZ Minerals Limited	Yes	Yes	Yes	2050

Pointsbet Holdings Limited	No	No	No	No
Pendal Group Limited	No	No	No	No
Paladin Energy Ltd	No	No	No	No
Pilbara Minerals Limited	No	No	No	2040
Pro Medicus Limited	No	No	No	No
Premier Investments Limited	No	No	No	No
Pinnacle Investment Management Group Limited	Yes	No	No	No
Polynovo Limited	Yes	No	No	No
Perpetual Limited	No	No	Yes	2050
Perseus Mining Limited	No	No	No	No
Platinum Asset Management Limited	Yes	No	No	No
Qantas Airways Limited	Yes	No	Yes	2050
QBE Insurance Group Limited	Yes	Yes	Yes	2050
Qube Holdings Limited	No	No	No	No
REA Group Ltd	No	Yes	No	No
Reece Limited	No	No	No	No
Ramsay Health Care Limited	No	Yes	No	No
Rio Tinto Limited	Yes	Yes	Yes	2050
ResMed Inc.	No	No	No	No
Ramelius Resources Limited	No	No	No	No
Regis Resources Limited	No	No	No	No
Reliance Worldwide Corporation Limited	No	No	No	No
South32 Limited	Yes	Yes	Yes	2050
St Barbara Limited	No	Yes	Yes	2050
Scentre Group	Yes	Yes	No	2030
Shopping Centres Australasia Property Group	Yes	Yes	No	2030
Steadfast Group Limited	No	No	No	No
SEEK Limited	Yes	Yes	No	2030
Sandfire Resources Limited	No	No	Yes	2050
Sims Limited	Yes	No	Yes	2050
Stockland	Yes	Yes	No	2028
The Star Entertainment Group Limited	Yes	Yes	No	2030
Sonic Healthcare Limited	No	No	No	No
SkyCity Entertainment Group Limited	No	Yes	Yes	No
Silver Lake Resources Limited	No	No	No	No
Washington H. Soul Pattinson and Co. Limited	No	No	No	No
Spark New Zealand Limited	No	Yes	No	No
Block Inc (Formerly Afterpay)	No	Yes	No	2030
Santos Limited	Yes	Yes	Yes	2040
Super Retail Group Limited	No	Yes	No	No
Suncorp Group Limited	Yes	Yes	Yes	2050
Seven Group Holdings Limited	Yes	Yes	Yes	2040
Tabcorp Holdings Limited	No	Yes	Yes	2050
Transurban Group	Yes	Yes	Yes	2050
Telstra Corporation Limited	Yes	Yes	Yes	2050
Technology One Limited	Yes	No	No	No
TPG Telecom Limited	Yes	No	No	No
Treasury Wine Estates Limited	Yes	Yes	No	2030

Tyro Payments Limited	Yes	Yes	No	2025
United Malt Group Limited	No	No	No	No
Unibail-Rodamco-Westfield	Yes	Yes	Yes	Viparis only: 2050
Uniti Group Limited	No	No	No	No
Vicinity Centres	Yes	Yes	No	2030
Viva Energy Group Limited	No	Yes	Yes	Non-refining business: 2030 Group: 2050
Virgin Money UK PLC	Yes	Yes	Yes	Operational: 2030 Financing: 2050
Westpac Banking Corporation	Yes	Yes	Yes	2050
Webjet Limited	No	No	No	No
Wesfarmers Limited	Yes	Yes	Yes	Bunnings, Kmart, Officeworks: 2030 WesCEF, Industrial and Safety, Coregas: 2050
Whitehaven Coal Limited	No	No	No	No
Worley Limited	Yes	Yes	No	2030
Woolworths Group Limited	Yes	Yes	Yes	2050
Woodside Petroleum Limited	Yes	Yes	Yes	2050
Waypoint REIT Limited	No	No	No	No
Wisetech Global Limited	No	No	No	No, have stated desire to achieve net zero but unclear by when
Xero Limited	Yes	No	No	No
Zip Co Limited	No	No	No	No

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