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AASB-AUASB RESEARCH REPORT

Climate-related disclosures and assurance in the Annual Reports of ASX-listed companies

December 2022

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The suggested citation for the complete report is:

J. You and R. Simnett, (2022), Climate-related disclosures and assurance in the Annual Reports of ASX-listed companies. AASB-AUASB Research Report (December 2022).

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Preface

This Research Report identifies climate-related disclosures and associated assurance practices in Annual Reports of Australian listed entities. As such, it builds off a joint bulletin issued by the AASB and AUASB (2019) to guide climate-related and other emerging risk disclosures and related audit/assurance practices in Annual Reports. It also builds off updated ASIC regulatory guidance highlighting the reporting of climate risk in the operating and financial review (ASIC 2019), prepared as a result of their examination of climate-related disclosures in the largest listed companies (ASIC 2018). In addition, the ASX (2019) requested listed entities to disclose material environmental risks in their corporate governance statements. These initiatives and requirements firmly put climate-related reporting and assurance in Annual Reports on the governing boards' agendas of Australian listed entities.

In this research report, we define Annual Reports as the reporting package that organisations are required to deliver under the corporate, compliance or securities laws of the country in which they operate. As such, we focus on climate-related disclosures in the Annual Report (which contains the audited financial results), and, irrespective as to whether it is contained in the Annual Report or not, disclosures contained in the associated Appendix 4G corporate governance statement (CGS), which is required under the reporting framework of the ASX Listing Rules. We include disclosures in the CGS to remove the impact on our trend analysis of the increasing trend to report the CGS separately to the Annual Report. Although this is allowed, it is referenced within the Annual Report and is a compulsory document that must be lodged at the same time as the Annual Report.

This research therefore provides information to inform the AASB and the AUASB in any consideration of current reporting and auditing standards with regards to climate-related disclosures, using a large sample that covers almost all listed companies in Australia for 2018-2021 (with reporting up to 30 June 2022 also considered). It does not cover climate-related disclosures and assurance practices outside the Annual Report, except to the extent that those disclosures are replicated or summarised in the Annual Report. As such the findings of this report have implications for considerations of climate-related disclosures and assurance under AASB standards for the AASB, and auditing (ASA) standards, but not assurance (ASAE) standards, for the AUASB. This Research Report therefore complements other research studies which include in their coverage disclosure in statutory financial reports, such as CAANZ (2022a), and in voluntary reports, such as that TCFD status report (2021, 2022), KMPG Sustainability survey (2022), as well as Thai et al. (2022) which was presented at the AASB Research Forum 2022.

Executive Summary

Some of the major considerations identified for the AASB and AUASB were:

Implications for Consideration
Of relevance to the AASB, the large variety of reporting frameworks for climate-related reporting suggests a demand for a comparable, internationally-aligned approach to deliver a baseline of more consistent sustainability, including climate-related, disclosures.
Australian listed companies across all industry groups are rapidly increasingly recognising climate impacts directly in their Annual Report/Corporate Governance Statement. The increasing disclosure rate across all industries adds support to the AASB and AUASB joint submission to the ISSB (2022) regarding the usefulness of industry-specific reporting standards and may provide a basis in any consideration as to which disclosures are most relevant in Australia.
Climate-sensitive industries are more likely to voluntarily disclose climate-related information with extant reporting standards and/or guidelines, companies in all industries are increasingly voluntarily recognising the importance of these disclosures to their investor stakeholders. However, in no industries were disclosures at 100%, with the lack of reporting and associated assurance commentary suggesting that there is an under-consideration of climate-related matters, or that such matters are not material to all listed entities, even some entities in climate-sensitive industries.
From an assurance perspective, most climate-related disclosures in the Annual Report were outside the financial reports and thus not subject to audit. The credibility-enhancing techniques are covered by ASA 720. The final revised ASA 720 was one of the more contentious outcomes from the revision of the auditor reporting standards, with concerns whether the level of involvement of the auditor is correct, understood, and this disclosure trend increases the importance of ensuring that ASA 720 is fit for purpose in the current environment.
The significant increase in climate-related information in financial reports and remuneration reports also leads to direct impacts on the financial report audits. Although this was anticipated by the AASB-AUASB (2019), which subsequently drove equivalent guidance respectively by the IASB (2020) and the IAASB (2020), there has not been a consequential change in underlying auditing standards or application material to support this increase.
With regards to audit reporting considerations, we note a rising number of key audit matters (KAMs) are including climate-related impacts, as well as a case where the auditor reported the impact of climate-related reporting on their audit planning in their audit report. There is no guidance or examples in the current ASA 700 series for auditors as to what they should include in their report for this type of information. We are now seeing instances of better practice which could be showcased.
With current assurance practices, although most engagements still provide limited assurance only for climate-related information, there is a trend occurring in the Australian market to assurance reports containing both reasonable and limited assurance levels. There is no clear guidance provided for such reports.

1. Methodology

This Research Report concentrates on climate-related disclosures in Annual Reports by Australian listed entities and associated audit practices. We define Annual Reports as the reporting package that organisations are required to deliver under the corporate, compliance or securities laws of the country in which they operate. As such we focus on climate-related disclosures in the Annual Report (which contains the audited financial results), and, irrespective as to whether it is contained in the Annual Report or not, disclosures contained in the associated Appendix 4G corporate governance statement (CGS), which is required under the reporting framework of the ASX Listing Rules. We include disclosures in the CGS to remove the impact on our trend analysis of the increasing trend to report the CGS separately to the Annual Report. Although this is allowed, it is referenced within the Annual Report and is a compulsory document that must be lodged at the same time as the Annual Report.

This research therefore provides information to inform the AASB and the AUASB of trends in climate-related disclosures and related audit approaches. We use a large sample that covers almost all listed companies in Australia for 2018-2021 (with reporting up to 30 June 2022 also considered). The report does not cover climate-related disclosures and assurance practices outside the Annual Report, except to the extent that those disclosures are replicated or summarised in the Annual Report. As such, the findings of this report have implications for considerations of climate-related disclosures and assurance under AASB standards for the AASB, and auditing (ASA) standards, but not assurance (ASAE) standards, for the AUASB.

Our data are sourced from the Connect4 database which provides textual searching in the combined Annual Reports and CGS (hereafter, Annual Reports) issued by all ASX-listed companies. Our sample period begins in 2018, which also corresponds to the first year after the issuance of the Task Force on Climate-related Financial Disclosures (TCFD) reporting recommendations (2017), and ends in 2021, the latest full year of data available at the time of writing.[1] The scope of research report is nearly all ASX-listed companies, and thus our sample size totalled 7,584 observations from 2018 to 2021, and the breakdowns for each year are reported in Figure 1 next section.

To identify climate-related disclosures, we follow ASIC (2018) by searching climate-related keywords in the text of Annual Reports. We adopt the keywords used in ASIC (2018), which include “climate change”, “global warming”, “carbon emission”, “greenhouse gas”, “climate risk” and “carbon risk”. We then extend this list based on our pilot review of a random sample of Annual Reports in order to capture as many disclosures with climate-related essence as possible. The following key terms are added to this list to identify climate-related disclosures in this report: “CO2”, “climate related”, “climate-related”, “climate strategy”, “TCFD”, “Climate Resilience”, “climate active”, “climate action” and “GRI”.

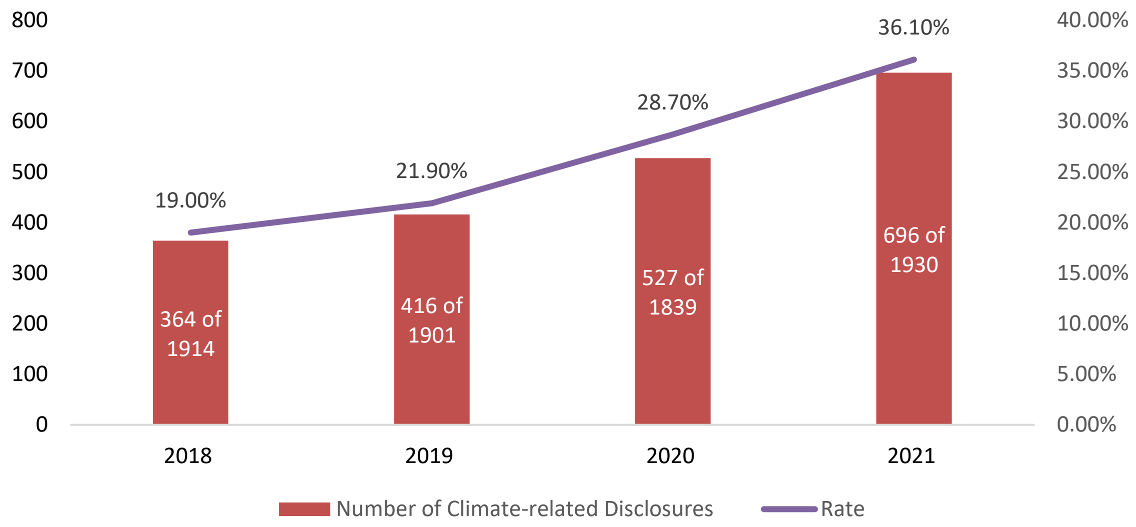
Based on the key terms stated above, we first identified companies with climate-related disclosures in the sample period and downloaded their Annual Reports from the Connect4 database. Then we manually reviewed such disclosures to find out the nature of disclosures and their locations (or sections) in the Annual Reports and excluded disclosures that were captured where the content was not relevant to companies’ climate performance.[2] In addition, we reviewed any reports of voluntary assurance on climate-related information and climate-related content in the independent auditor’s report. We will now discuss our analysis in the next section.

[1] The data collected for this report was that available up until October 2022. Reporting data for periods ending after June 30, 2022, was not available at that time. An addendum of reporting and assurance trends comparing trends in calendar year 2022 (to year end 30 June) to trends observed for 2018-2021 is contained in this report.
[2] Such as, where a search term was contained in the name of a product or a subsidiary.

2. Climate-related disclosures in Annual Reports: extent

Figure 1 demonstrates a steady increase in disclosing climate-related information in Annual Reports among ASX-listed companies. In terms of the number of companies disclosing climate-related information in their Annual Reports or Corporate Governance Statement, it increases from 364 (19% of listed entities) in 2018 to 696 (36% of listed entities) in 2021. This indicates that Australian companies have increasingly recognised the significance of climate-related impacts.

Figure 1: Overview of climate-related disclosures for listed companies in Australia



2.1 Disclosures by industry

Further to the overall rate, Figures 2A and 2B report the disclosure practices in each industry using Global Industry Classification Standard (GICS) sector classification. Guided by TCFD (2017) and AASB-AUASB (2019), we group the industries by the extent to which they are exposed to climate-related risks, and define climate-sensitive industries as Consumer Staples, Energy, Financials, Industries, Materials, Real Estate and Utilities.

Every industry has experienced an increasing trend, with Utilities having the highest proportion of disclosers in Annual Reports on 2018 (56%) and 2021 (74%). In comparison, Health Care (9% in 2018 to 21% in 2021) and Information Technology (7% in 2018 to 24% in 2021) have the lowest proportion. The improvements in the disclosure rates range from 11% to 34%, with the greatest increase in Energy and the smallest in Industrials. Comparison of Figures 2A and 2B shows that, on average, companies in climate-sensitive industries are significantly more likely to disclose climate-related information in Annual Reports, while there is a continual increase every year in every industry.

Figure 2A: Disclosures by climate-sensitive industries

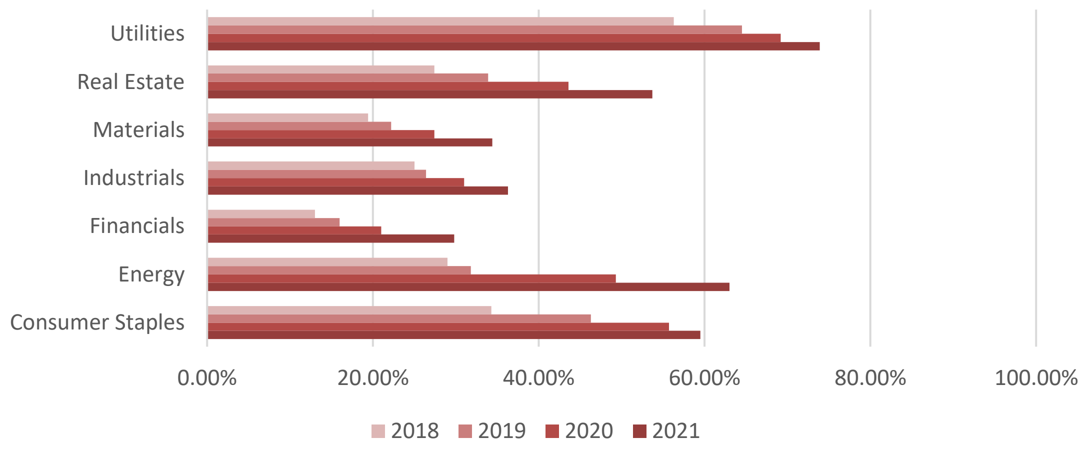
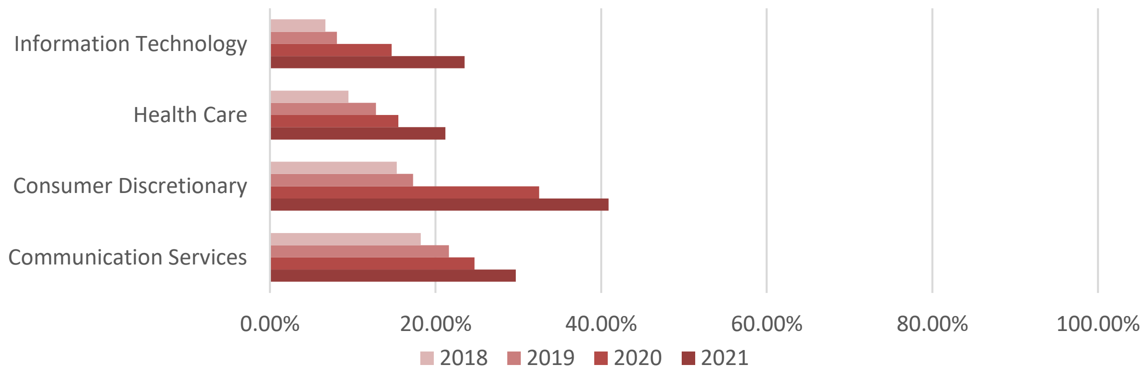


Figure 2B: Disclosures by other industries



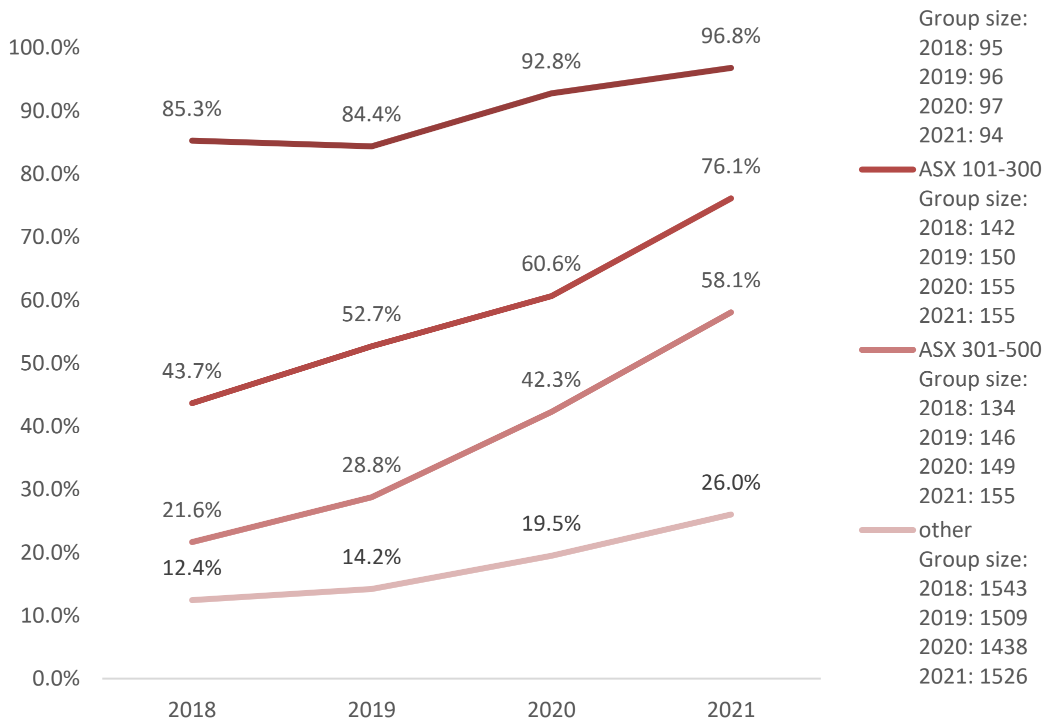
2.2 Disclosures by company size

In addition to industries, we have also analysed disclosures of climate-related information in Annual Reports based on company size, as categorised by ASX 100, ASX 101-300, ASX 301-500 and others. The ASX categorisation was based on the market capitalisation category that a company was in at the end of calendar year 2020 as we try to make movements in categories reflect changes in disclosures and assurance for companies in that cohort, rather than within-section variations of companies' categories.

Figure 3 shows that all groups have experienced a growth in climate-related disclosures in Annual Reports since 2018. ASX 100 companies[3] maintain the highest disclosure rate compared with other groups, with 81 out of 95 (85.3%) in 2018, 81 out of 96 (84.4%) in 2019, 90 out of 97 (92.8%) in 2020 and 91 out of 94 (96.8%) in 2021. An increase of 10 companies across four years is considered an improvement as it raises the rate from 85% to 97%. Following the ASX 100 companies, ASX 101-300 and ASX 301-500 experienced an increase in the number of companies with climate-related disclosures by 56 and 61 companies, with their disclosure rate increasing from 43.7% to 76.1% and from 21.6% to 58.1%, respectively. Companies outside of ASX 500 continue to have the lowest disclosure rate, ranging from 12.4% in 2018 to 26.0% in 2021.

As discussed above, company size is likely to have an impact on the likelihood of climate-related disclosures, reflected by the disclosure rate rising with company size. ASX 100 companies are most likely to disclose climate-related information in their Annual Reports, followed by ASX 101-300 and ASX 301-500. Although relatively small companies take the largest proportion among all disclosers, their disclosure rate has been the lowest since 2018 due to a large number of companies in this cohort.

Figure 3: Disclosure rate by company size



[3] The changes in the cohort sizes are related to market movements and our exclusion of exchange-traded funds and trusts due to their different business nature, consistent with other approaches (Tan et al. 2022).

3. Climate-related disclosures in Annual Reports: location

Further to the overall disclosures, we are also interested in the sections of climate-related disclosures in the Annual Reports. From an auditors' perspective, information outside the financial report is not subject to audit. However, ASA 720 requires auditors to read and consider information in the Annual Reports to determine if it is materially consistent with the financial report and the auditor's knowledge and evidence obtained during the audit. As auditors have different responsibilities towards the information based on where it is disclosed, it is important to understand where climate-related disclosures appear in the Annual Reports.

Table 1 outlines the sections in the Annual Reports where climate-related information is disclosed. All companies disclosing climate-related information have the information in sections of the Annual Report outside of the financial reports and remuneration reports. The likely sections include principle 7.4 of the Corporate Governance Statement, or, in the Annual Report, sections on sustainability, risk management, environmental regulation, or a discussion of performance in the director's report and chairperson's or CEO's letter. Given that the format of Annual Reports is not standardised in Australia, there are a proportion of disclosures outside of the stated sections above.

Information outside the financial statements is not subject to audit. However, the Auditing Standards do require the auditor to read and consider information in the Annual Report to determine if it is materially consistent with the financial statements, and the auditor's knowledge. Therefore, it is important that users understand this.

Despite being a small proportion, we find an increase in the climate-related disclosures in the notes to financial reports from 4.4% in 2018 to 10.5% in 2021, as shown in Table 1. This provides support for the view that Australian companies are gradually recognising the significance of climate-related impacts on their financial position and performance. More details will be discussed in Section 3.1.

We notice an increasing number of companies have directors' compensation linked to climate-related performance, which has led to an increase in such disclosures in remuneration reports. Climate-related performance is usually reflected by quantifiable or factual indicators, such as reduction in greenhouse gas emissions and issuance of climate reports. The credibility of the underlying quantitative climate-related information is expected to be enhanced, especially the climate-related impacts on the remuneration policies, by audit requirements covering remuneration reports.[4] We also report more details about the disclosures in the remuneration reports in Section 3.2 of this report.

Table 1: Sections in the Annual Reports with climate-related disclosures

	2018		2019		2020		2021		Total
	No.	%	No.	%	No.	%	No.	%	No.
Companies with climate-related disclosures	364		416		527		696		2003
Disclosures in the notes to financial reports	16	4.4%	31	7.5%	47	8.9%	73	10.5%	167
Disclosures in Director's remuneration reports	5	1.4%	14	3.4%	21	4.0%	42	6.0%	82
Disclosures in other sections of Annual Reports	364	100%	416	100%	527	100%	696	100%	2003

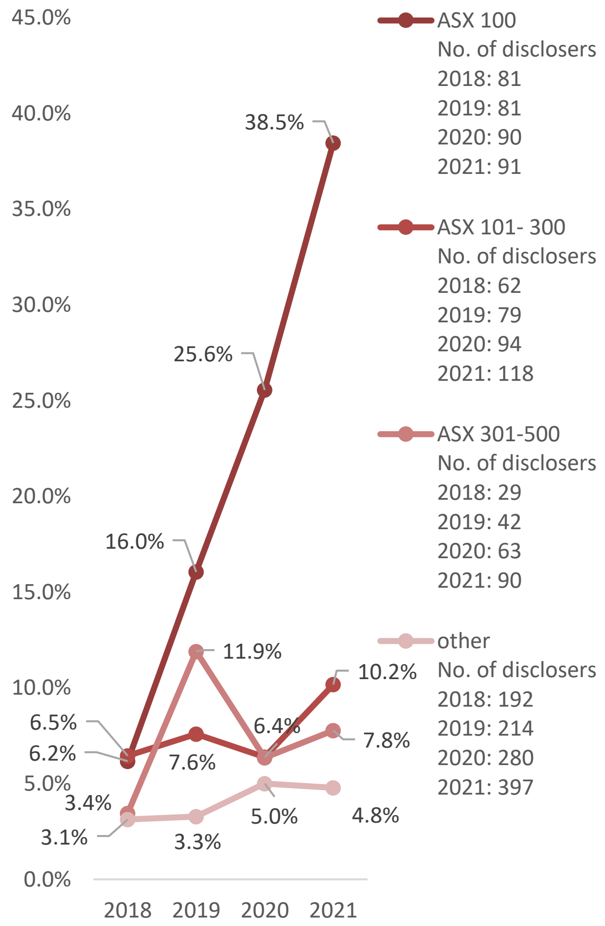
Note: the percentage is based on the number of companies with climate-related disclosures in the Annual Report in the corresponding year.

[4] Recognising that the auditor has only audited the impact on the remuneration policies.

3.1 Disclosures in notes to financial reports

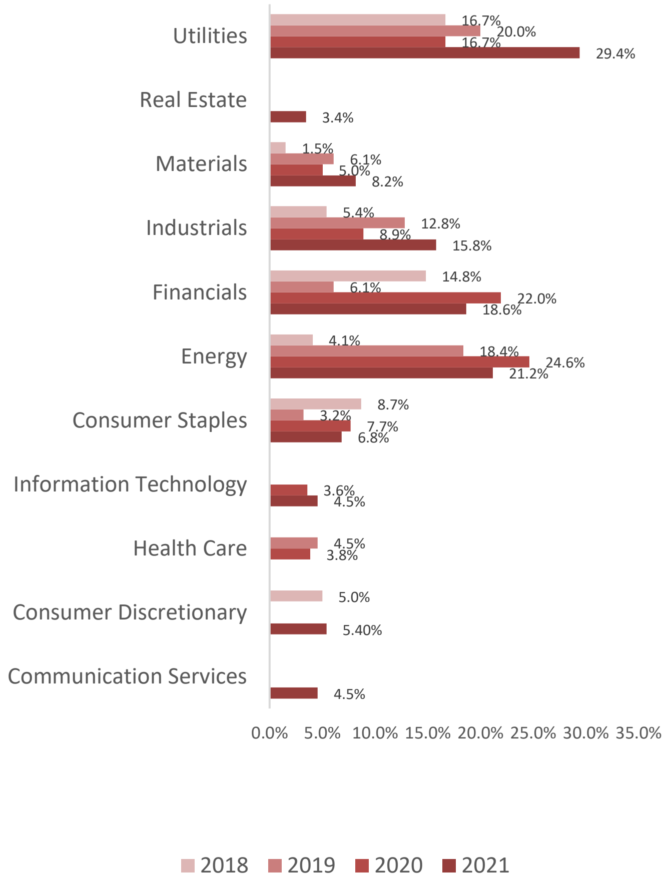
There are 167 Annual Reports mentioning climate-related terms in their notes to the financial report for the period from 2018 to 2021, as reported in Table 1. Similar to the overall disclosure trend, we find the largest companies have the highest likelihood of considering climate-related impact in their notes to the financial report. Figure 4A reports the percentage of climate-related disclosures in the notes to the financial report in each size-based group. ASX 100 companies have the greatest proportion across four years ranging from 6.2% (5 companies) to 38.5% (35 companies) of all disclosers each year. Despite fluctuations in the percentage in the groups of ASX 101-300 and ASX 301- 500 due to an increase in the number of disclosers, there is an overall rising trend of disclosures in the notes to the financial report across each of the size categories. The proportion of ASX 101-300 increases from 6.5% (4 companies) to 10.2% (12 companies), and ASX 301- 500 goes from 3.4% (1 company) to 7.8% (7 companies). Small companies also follow the trends of ASX 500 companies, with an increase in the disclosure rate in the notes to the financial report from 3.1% to 4.8%.

Figure 4A: Disclosure rate in the notes to the financial report among disclosers by company size



Note: the percentage is based on the number of disclosers in the corresponding group.

Figure 4B: Disclosure rate in the notes to the financial report among disclosers by industry



Note: the percentage is based on the number of disclosers in the corresponding industry.

Figure 4B reports the disclosure rate based on the industry in which the discloser is located. In general, companies in climate-sensitive industries are more likely to have climate-related notes to the financial report. Despite fluctuations in some industries, there is an overall growing trend of disclosing climate-related information in the notes to the financial report, especially in the climate-sensitive industries. As the reported percentages indicate the proportion of disclosures in the notes to the financial report over climate-related disclosures, they can be affected by the growing number of disclosures in the Annual Reports. In 2021, Utilities have the highest rate of climate-related disclosures in the notes to the financial report at 29.4% (16.7% in 2018) over climate-related disclosure in Annal reports. Energy has experienced the largest improvement in the proportion of disclosure in the notes to the financial report, which increased from 4.1% in 2018 to 21.2% in 2021, whilst noting that is even higher at 24.6% in 2020.

Having reviewed the climate-related disclosures in 167 Annual Reports, we summarise the topics of relevant notes containing climate-related disclosures in Table 2. Notes covering the carrying value and impairment of non-financial or intangible assets was the main category of notes containing climate-related discussions (57, 34.1%[5]), followed by risk management (39, 23.4%). The note related to accounting policies and judgement, or basis of preparation, had 33 Annual Reports (19.8%) mentioning climate-related impacts. Other categories of notes that contain mentions of climate-related impacts include property, plant and equipment (29, 17.44%), subsequent events, including provisions and contingencies (27, 16.2%), profit-related items (11, 6.6%) and investments (5%, 3.0%). We also observe 5 (3.0%) of the financial reports contain references to assurance of climate-related disclosures or non-assurance services provided by their incumbent auditors, such as TCFD disclosures gap analysis, in their notes to auditor’s remuneration. Although there are also other mentions of climate-related impacts contained in notes categories other than those listed, they are usually specific to notes for those companies or asset types.

Table 2: Category of the notes with climate-related disclosures in the financial reports

Topics	No.	Percentage
Carrying value and impairment of non-financial or intangible assets	57	34.1%
Risk management	39	23.4%
Accounting policies and judgments or basis of preparation	33	19.8%
Property, plant and equipment	29	17.4%
Subsequent events, including provisions and contingencies	27	16.2%
Profit, including revenue and expenses	11	6.6%
Investments	5	3.0%
Auditor’s remuneration	5	3.0%
Other topics	21	12.6%
Total	227	100.0%

Note: Some Annual Reports had more than one note category containing climate-related disclosures, in total 227 individual note categories from 167 Annual Reports. The percentage is calculated by the number of individual notes for each topic with climate-related disclosures divided by the 167 Annual Reports containing climate-related disclosures in the notes to financial reports.

[5] 57 Annual Reports with climate-related notes of carrying value of assets accounted for 34.1% of 167 reports with climate-related notes.

Which categories of notes contained climate-related disclosures was shown to be sensitive to industry categorisation. For example, of the 26 Annual Reports in the Financials industry, 19 (73%) disclose climate-related information in the note related to financial risk management, 14 out of 15 (93%) Annual Reports in Utilities disclose climate-related information in the note covering the basis of preparation, accounting policies and critical judgments. For companies in Energy and Materials, more topics can be impacted by climate, and their most common notes disclosing climate-related information are: (1) basis of preparation, accounting policies and critical judgments, (2) non-financial assets and impairments, (3) provisions and/or contingencies, and (4) plant, property and equipment. Companies in Energy are likely to disclose climate-related information in their risk management note.

We also notice that, despite only limited cases in the recent two years, there are instances where climate-related topics in the notes to the financial report are also considered a key audit matter (KAM) by the auditor. Auditors, especially Big 4 auditors, also discuss climate-related impacts in their auditors' report. It suggests that both management and auditors recognise the importance of climate-related impacts on financial reports. We will further discuss climate-related impacts on financial report audits in Section 5.

3.2 Disclosures in remuneration reports

The largest companies are those that are most likely to include climate-related content in their remuneration reports, which is in line with the overall disclosure trend discussed in Section 2. As shown in Figure 5A, ASX 100 companies represent the largest proportion of ASX companies with climate-related disclosures in remuneration reports, increasing from 3.7% (3 of 81 disclosers) in 2018 to 33% (30 of 91 disclosers) in 2021. Following ASX 100, companies in ASX 101-300 also experience a growth in the disclosures in the remuneration reports, increasing from 3.2% (2 of 62 companies) in 2018 to 5.1% (6 of 118 disclosers) in 2021. However, companies outside of ASX 300 have no climate-related disclosures in their remuneration reports until 2020 and, after that, ASX 301-500 raises its disclosures in the remuneration reports more rapidly to 4.4% (4 of 90 disclosers) than smaller companies to 0.5% (2 of 397 disclosers). We also observe all remuneration reports containing climate-related disclosures are audited by large audit firms.[6]

In terms of industries, Figure 5B reflects that climate-related disclosures in remuneration reports are more likely to happen if the company operates in a climate-sensitive industry. Up to 2021, we observe cases of disclosures in the remuneration reports in all climate-sensitive industries, while we have not yet detected such disclosures in Communication Services, Health care or Information technology.

Companies can report climate-related information when discussing incentives, performance assessment and strategy in their remuneration reports. Across our sample period, 15 out of the 82 remuneration reports that contain climate-related disclosures highlight climate-related consideration in their company strategies which impact the remuneration plans. Of those 82 remunerations reports, 55 include climate-related measures when discussing incentives. This includes both implemented and planned incentives. Climate-related incentives and performance outcomes consider commitments to climate actions primarily by reducing greenhouse gas emissions, improving reporting of climate-related performance and progressing towards the company’s climate-related strategic objectives. For example, BlueScope Steel Ltd mentions that their strategic measures are “linked to the achievement of BlueScope’s greenhouse gas emissions intensity reduction targets” in their short-term incentive plans for the three years from 2019 to 2021.[7]

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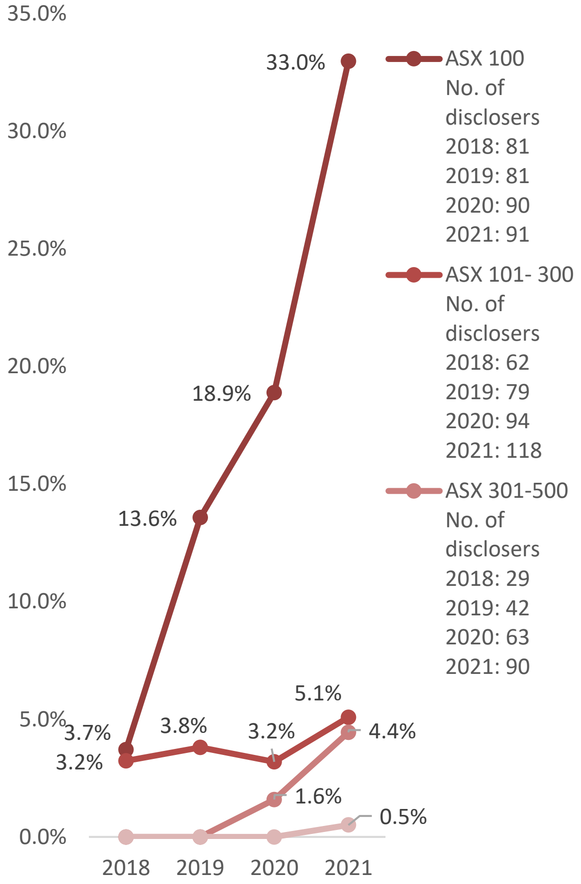
[6] Big 4 auditors (Ernst & Young, Deloitte, KPMG and PwC) and BDO.

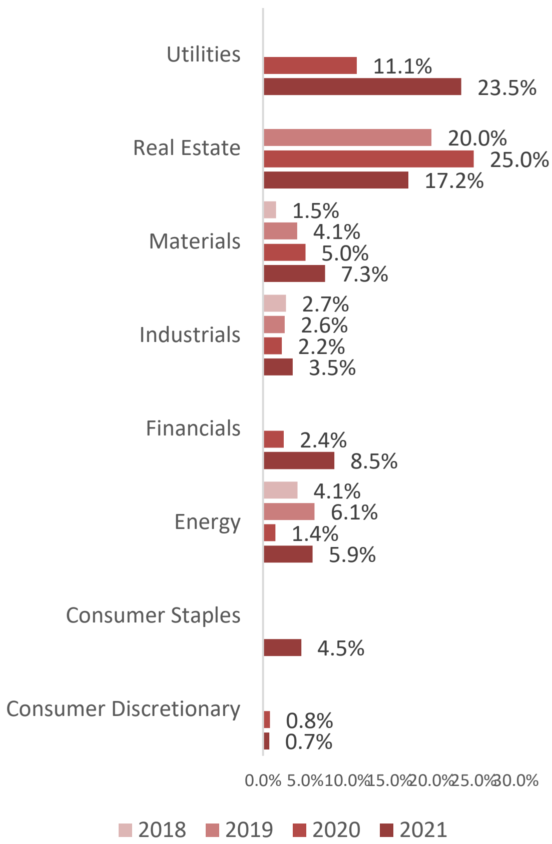
[7] See Appendix 3.

Figure 5A: Disclosure rate in the remuneration reports among disclosers of climate-related information by company size



Note: the percentage is based on the number of disclosers in the corresponding

Figure 5B: Disclosure rate in the remuneration reports among disclosers of climate-related information by industry



Notes:
1. the percentage is based on the number of disclosers in the corresponding industry.
2. We do not observe climate-related disclosures in the remuneration reports appearing in communication services.

4. Climate-related disclosures in Annual Reports: Alignment of disclosures with TCFD

As the ISSB proposed requirements of climate-related disclosures were built upon TCFD recommendations (IFRS 2022), we identify references to voluntary adoption and alignment with the TCFD reporting framework in Annual Reports. Table 3 reports a steady increase in adopting and aligning with the TCFD recommendations (2017) among climate-related information disclosers. Despite our focus on the TCFD, it is noteworthy that companies might apply the TCFD framework together with other reporting frameworks. Starting from 16% of disclosers in 2018, the proportion of disclosers referencing the TCFD reporting framework continually increases to 20.4% in 2019, 25.2% in 2020 and 25.9% in 2021.

Table 3: Disclosure of adoption and alignment with TCFD

	2018		2019		2020		2021	
	No.	%	No.	%	No.	%	No.	%
Companies with climate-related disclosures	364		416		527		696	
Companies referencing the TCFD recommendations	61	16.8%	85	20.4%	133	25.2%	181	25.9%
Companies with the explicit four sections of the TCFD reporting structure	17	4.7%	29	7.0%	38	7.2%	63	9.0%

Note: the percentage is based on the number of companies with climate-related disclosures in the Annual Report in the corresponding year.

In terms of reporting quality, we focus on companies' alignment with the TCFD recommended reporting structure, which refers to the following four sections: governance, strategy, risk management, and metrics and targets. We also consider it as an alignment with the TCFD recommendations if the company provides an index mapping the TCFD recommended items to sections in the Annual Report.

We find the number of adopters explicitly using the four sections recommended by the TCFD (2017) climbs from 17 companies (4.7%) in 2018 to 63 companies (9.0%) in 2021. For example, Oz Minerals Ltd[8] discusses their climate change and emissions performance in the TCFD structure in the Environmental Performance section of their 2021 Annual Report. They highlight their decarbonisation strategy and present the climate scenario analysis with the 1.5°C goal of the Paris Agreement. We also observe that some companies, such as Australia and New Zealand Banking Group Ltd (2021) [9], summarise their progress on each section of TCFD in the Annual Report, although they have a standalone climate change statement.

While some adopters may not explicitly demonstrate their alignment in their Annual Reports, an increasing number of companies have adopted the TCFD reporting framework since 2018 and voluntarily reported using its structure before the publication of the ISSB's Exposure Drafts on sustainability and climate-related financial disclosures. Our results support the TCFD's contention (2022) that, at least as evidenced by Australian companies, both availability and quality of TCFD-aligned disclosures have been improving.

[8] See Appendix 1.

[9] See Appendix 2.

5. Climate-related impact on financial report audits

With greater awareness of climate-related risks by management, auditors should also consider the climate-related risks of a client as they can lead to higher inherent risk and risk of material misstatement. Hartlieb and Eierle (2022) document that greater exposure to climate-related risks has impacts on financial report audits as reflected by higher audit fees. This report considers the climate-related impacts on financial report audits from a reporting perspective and focuses on the auditors' reports, mainly the Key Audit Matters (KAMs) in the auditor's report.

As listed in Table 4, climate-related content in KAMs increases from none in 2018, 1 in 2019, 5 in 2020 to 9 in 2021. The climate-related KAMs are often sticky and repeated in the subsequent years, with the exception being the auditor's report of Rio Tinto which discussed climate-related impact in 2020 but not in 2021. The KAMs also detail that climate impacts the auditor's risk assessment and/or factors affecting the auditor's procedure to address their identified risk.

Table 4: KAMs with climate-related content

Company	Years	GICS sector	KAM topic	Risk or Procedure
Australia and New Zealand Banking Group Ltd	2020-2021	Financials	Allowance for expected credit losses	Procedure
Alumina Ltd	2021[10]	Materials	Impairment indicator assessment for Alumina Limited's equity accounted investment in AWAC	Risk
Aurizon Holdings Ltd	2021	Industrials	Assessment of useful lives of assets	Procedure
BHP Group Ltd	2020 2021	Materials	Assessment of the carrying value of long-lived assets	Risk
Genesis Energy Ltd	2021	Utilities	Valuation of generation assets	Risk
Mount Gibson Iron Ltd	2021	Materials	Provision for rehabilitation	Procedure
National Australia Bank Ltd	2019 2020 2021[11]	Financials	Provision for credit impairment	Procedure
Rio Tinto Ltd	2020	Materials	(1) Evaluation of indicators of impairment or impairment reversal of intangible assets and property, plant and equipment in specific cash generating units (2) Evaluation of provisions for close-down, restoration and environmental obligations	(1) Risk & Procedure (2) Risk
Santos Ltd	2021	Energy	Carrying values of exploration and evaluation, oil and gas assets and goodwill	Procedure
Woodside Petroleum Ltd	2020 2021	Energy	Carrying value and Impairment of oil and gas properties	Procedure

[10] See Appendix 4.

[11] See Appendix 5.

With insights into industries, we notice that all of these KAMs are included in the auditor's reports for companies in climate-sensitive industries. For instance, KAMs with climate-related content are likely to be related to credit losses or impairment for banks, and assets evaluation for companies in Utilities, Industries, Energy and Materials. For companies in Financials and Energy, we observe more instances where auditors consider climate-related impacts in their procedures to address KAMs. By contrast, auditors are more likely to consider climate as a factor when identifying risk of material misstatement for their clients in the Materials industry.

Besides KAMs, we note one instance where auditors raise climate change for audit planning in the auditor's report. KPMG UK highlighted the impacts of climate change on the business, financial reports and the audit in their auditor's report issued to Rio Tinto for their 2020 report.[12,13]

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[12] See Appendix 6.

[13] Although KMPG did not repeat this practice in the following year, we noted a similar practice in the auditor's report issued to BHP Group in 2022, where EY emphasised their consideration of climate-related risks in their audit.

6. Reference in the Annual Report to voluntary assurance engagements on climate-related information

In the earlier sections, disclosures in the Annual Report can be a summary of separate stand-alone reporting engagements. The credibility of this information is enhanced by being subject to audit if included in the financial report, or ASA 720 requirements contained in other information in the Annual Report outside the financial report. The credibility of disclosures in the Annual Report can also be enhanced by referencing any additional external assurance of climate-related information contained in these stand-alone reports, along with the reporting of this information. Thus, in this section we consider companies' disclosure in the Annual Reports of independent assurance associated with these stand-alone reporting engagements.[14] As shown in Table 5, around 5% of disclosers report additional third-party assurance in their Annual Report. Due in part to the voluntary nature of these additional assurance engagements, companies have various practices towards revealing their purchase of third-party assurance. With the focus on what information related to these separate assurance engagements is disclosed in the Annual Report, we report in Table 5 the companies stating their purchase of external assurance of climate-related information, as well as the number that include the related assurance reports in the Annual Report.

Table 5: Reference to assurance engagements of climate-related information in the Annual Reports

	2018		2019		2020		2021		Total
	No.	%	No.	%	No.	%	No.	%	No.
Reference to the existence of such assurance engagements	18	4.9%	23	5.5%	27	5.1%	36	5.2%	104
Assurance report available in the Annual Report	9	2.5%	8	1.9%	12	2.3%	16	2.3%	45
Limited assurance reports	9		8		11		13		41
Both reasonable and limited assurance report	0		0		1		3		4

Note: the percentage is based on the number of companies with climate-related disclosures in the Annual Report in the corresponding year.

Table 5 shows an increasing number of companies referring in their Annual Report to the existence of third-party assurance on climate-related disclosures (the proportion across years is stable due to the increase in the number of companies with climate-related disclosures). Across 2018-2021, we find 45 assurance reports contained in the Annual Reports, but again, not an increasing proportion. With our examination of these assurance reports, we would like to discuss some attributes of the assurance practices, including assurers, assurance level, assurance standards and disclosure of reporting framework. First, nearly all of the assurance reports are issued by Big 4 auditors, with the only exception being where the assurance report is issued by a non-accounting firm. Of the assurance firms, 64% are also from the incumbent audit firm of the company.

Second, limited assurance is the dominant assurance level, evidenced by 41 out of 45 reports. We notice assurance engagements with both limited and reasonable levels have emerged in recent years. The other 4 assurance reports contained both limited and reasonable assurance; limited assurance on sustainability information or scope 3 greenhouse gas emissions and reasonable assurance specifically on scope 1 and 2 greenhouse gas emissions.

[14] We acknowledge that some companies which had their stand-alone climate-related information assured might include no reference to this in their Annual Report.

Third, with regards assurance standards, all assurers applied ISAE/ASAE 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information* and/or ISAE/ASAE 3410 *Assurance Engagements on Greenhouse Gas Statement*s.

Lastly, we observe a great variety of reporting frameworks against which assurance is provided. Unlike financial report auditors where the reporting framework is required to be accounting standards, one engagement can provide assurance against one or multiple reporting frameworks, showcased by QBE Insurance Group Ltd (2021) in Appendix 7. In our sample, the applied reporting frameworks include GRI, Greenhouse Gas Protocol, TCFD, climate-related ISO standards[15], International Integrated Reporting Framework and Sustainability Accounting Standards, as well as national legislation, such as National Greenhouse and Energy Reporting Act 2007 in Australia. Mining companies can also be subject to the industry-specific guidelines of the International Council of Mining and Metals (ICMM). We also notice that, in 19 assurance reports, the assurers reference one of reporting frameworks as management's selected reporting criteria.

[15] It specifically refers to ISO 14064-1:2018 *Greenhouse gases* for climate-related information.

7. Addendum: High level reporting and assurance trends for 2022 to year end 30 June

As we reported in footnote 1, the data collected for this report was that available up until October 2022. Thus, reporting data for periods ending after June 30, 2022, was not available at that time. In order to reflect trends with this data reported for the first half of 2022, we include this addendum of high-level reporting and assurance trends comparing trends for Annual Reports issued in 2022 (to year end 30 June) to trends observed for 2018-2021. The preliminary results for 2022 suggest the overall trend of disclosing climate-related information in Annual Reports keeps rising, and the disclosure rate will reach around 38% to 39%. This expectation is supported by the findings of CAANZ (2022b), which finds growing impacts of climate-related risk on financial reports of the largest entities in ASX and NZX for balance dates between 31 December and 31 July 2022.

Based on our examination of assurance reports in Annual Reports, there seems to be similar practices in 2022 to previous years. We found 15 assurance reports attached to the Annual Reports, which is comparable to the previous years. Big 4 remains to be the primary provider of voluntary assurance, as reported in the Annual Reports. The majority of engagements are at the limited assurance level, and some are with multiple assurance levels.

8. Appendices: Good practice examples

List of Appendices:

1. TCFD structure: OZ Minerals Ltd (ASX: OZL) (2021)
2. TCFD progress: ANZ bank (2021) (ASX: ANZ)
3. Remuneration Report: BlueScope Steel Ltd (ASX: BSL) 2021
    - (a) STI plan applied in FY2021
    - (b) Proposed FY2022 short term incentive plan
4. Extract from auditor’s report issued to Alumina Ltd (ASX: AWC) (2021): KAM risk
5. Extract from auditor’s report issued to National Australia Bank Ltd (ASX: NAB) (2021): KAM procedure
6. Extract from auditor’s report issued to Rio Tinto (ASX: RIO) (2020)
7. Assurance report issued to QBE Insurance Group Ltd (ASX: QBE) (2021)

Appendix 1: TCFD structure: OZ Minerals Ltd (ASX: OZL) (2021)

Governance

The Board Sustainability Committee maintains oversight of material sustainability risks, including climate change and emissions. The Committee met three times in 2021, with climate change and emissions being a topic of discussion at each meeting. Emphasis was placed on emerging trends and developments regarding climate and emissions policy and market developments, including United Nations Climate Change Conference of the Parties (COP26), and our Decarbonisation Roadmap and emissions reduction commitments. The full Board was also engaged in the evolving Decarbonisation Roadmap and other related issues.

OZ Minerals' management implements our governance structure and Risk Management Framework, which includes climate-related risks and our Process and Performance Standards, several of which pertain to emissions and climate (page 36). Key management roles accountable for climate-related risks include our Finance and Governance, Corporate Affairs, and Operations Executives, as well as asset General Managers.

To further build capability within our workforce and among key stakeholders, we hosted dedicated workshops with subject-matter-experts on topics including the Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report (AR6), carbon offsetting, Scope 3 emissions, mine decarbonisation, internal 'showcase' events to share learnings from the Decarbonisation Roadmap and deep dives with key contracting partners and our Board. These sessions were additional to our monthly cross-functional Social and Environment Community of Practice meetings, which serve as a platform for knowledge sharing regarding climate risk and emissions, among other themes.

Strategy

We leverage existing capability to mine copper as the driver of value. Copper is widely recognised as a metal critical to enabling the transition to a low carbon economy and one for which demand is forecast to increase significantly.

The role of copper in global decarbonisation was a central focus of a comprehensive review of our Strategy undertaken in 2021. The review included four scenarios, including a scenario aligned with the 1.5°C goal of the Paris Agreement (see below), and was conducted via a dedicated Corporate Strategy Team comprised of senior management from assets and corporate, and led by our Group Strategy function. Several scenario-focused Strategy workshops were also undertaken with the Board.

The review of our Strategy found retaining our focus on copper to be the most value accretive pathway for OZ Minerals, especially under the 1.5°C scenario. The scenario analysis involved evaluating the copper focus across 21 metrics through three streams: supply, demand, and value. Among several aspects, these metrics included exposure to the renewable energy, decarbonisation, and electrification thematics[e], and ESG risk, including water stress (a physical climate risk metric).

Core elements and metrics associated with our 1.5°C scenario

Scenario overview	Accelerated net zero (1.5°C scenario)	
	A global coalition led by major economies coordinates government efforts together with non-governmental organisations and revitalised multilateral frameworks to reduce emissions and address climate change impacts and environmental degradation. Developed countries support developing to transition to low carbon economies through aid and transfers of low emissions technologies, recognising how rapidly these global challenges spread across borders.	
Element	**By 2030**	**By 2050**
Energy & economy	7% less energy for an economy 40% larger	8% less energy for an economy twice the size, with 9 billion people
Electrification	Annual investment in electricity networks is US$820 billion EV battery production increases to 6600 GWh in 2030, from 160GWh today	2.5 times increase in electricity generation, 70% of which is solar and wind Fossil fuels reduce to 20% of total world energy, down from 80% today
Transport	60% of new vehicles are EVs 40 million EV charging points exist in 2030, from 1 million today Annual investment in hydrogen climbs to US$40 billion in 2030	No new Internal Combustion Engine (ICE) cars are sold from 2035 Hydrogen is commercially viable for heavy transport from the 2030s
Renewables	630GW of solar and 390GW of wind is installed annually, equivalent of 4 times the 2020 levels	Two-thirds of total energy supply is renewable, solar is one-fifth
Carbon pricing	Carbon pricing applies in nearly all regions of the globe to electricity generation, industry and energy production. Carbon border tariffs are used to account for leakage	Emissions trading occurs at an international scale, encompassing much of the global economy.
Climate change	'Locked in' impacts materialise	Worst effects of climate change are avoided

Reference scenarios

Our 1.5°C scenario centres on the International Energy Agency (IEA) Net Zero Emissions by 2050 (NZE2050) scenario, supplemented with the following scenarios:

- IEA Stated Policies Scenario (STEPS)
- Shell Sky scenario
- Intergovernmental Panel on Climate Change Representative Concentration Pathway 2.6 (RCP 2.6)
- The Role of Critical Minerals in Clean Energy Transitions, IEA (reference report)

Linking with our Strategy review, our 2022 Business Planning Context Statement, which underpins development of annual business plans across OZ Minerals, included significant focus on emissions reduction and decarbonisation. This further connects our Strategy and Aspirations to our on-the-ground business plans, capital requests and forecasting, and the actions we will take to deliver on our Decarbonisation Roadmap and commitments.

Transition risks

Linking with the outcomes of the Strategy review, at a company level, we see significant opportunities for copper in the transition to a low carbon economy. These include:

- increased demand through economic decarbonisation and increased electrification
- greater focus on circular economy and copper recycling
- potential price premium resulting from lower emissions metal production.

Within the Company, our individual assets have identified opportunities to transition their operations away from the current reliance on diesel, linking with our Decarbonisation Roadmap.

At the same time as we have identified transition opportunities, threats exist in the form of:

- exposure to greenhouse gas regulation and carbon pricing
- delivery of performance and progress consistent with our Decarbonisation Roadmap
- changed public sentiment toward heavy industry, including mining.

Consistent with our approach to risk management (page 36), the risks (opportunities and threats) above are held in our risk management system by relevant corporate functions or assets. Our Decarbonisation Roadmap and Company Strategy alignment, together with our approach to risk, enable us to optimise our position regarding opportunities and remain in front of threats.

Further physical risk assessment

This year, we expanded our physical climate risk assessment to our Brazilian assets. Consistent with our assessment of our Australian assets, this assessment used IPCC Assessment Report 5 (AR5) Representative Concentration Pathways RCP8.5 and RCP4.5. We also considered the SSP3-7.0 and SSP5-8.5 scenarios released in the IPCC's 2021 AR6 report.

Overall, increased temperatures (including extreme daytime temperatures), extreme rainfall events, and reduced rainfall were identified as the key potential physical climate-related impacts in the Carajás. While these impacts create risks for our operations, all identified risks were rated low. The physical climate-related risks to our Brazilian operations identified included:

- extreme rainfall events
  - operational disruption and damage to infrastructure
  - obstruction or delay of access to site and survey areas
  - mud-rush or inrush and/or landslides
  - water contamination, including the tailings dam
- increased temperatures
  - increased ventilation and refrigeration requirements
  - more prevalent incidents of workforce heat exposure and thermal discomfort
  - increased energy consumption and cost
  - increased incidence of fire in the surrounding landscape disrupting site access
- reduced rainfall
  - increased power cost or supply disruption due to decreased grid hydroelectric generation
  - increased dust suppression requirements
  - reduced groundwater recharge and decreased underground mine pumping requirements (an opportunity)

Outside our direct operations all three physical climate-related impacts have the potential to impact the community in our region, particularly farmers, and local biodiversity.

Our Brazilian assets maintain a suite of controls to manage the above risks including health and safety protocols, mine design, monitoring, pumping and flow control, maintenance, and constructed mitigations (such as firebreaks) to reduce the potential impact to operations.

In addition to the risk assessment of our Brazilian assets, we also reviewed Material physical climate-related threats identified for our South Australian assets. The review concluded that the threat of extreme weather remains Material, primarily through impacts from extreme summer temperatures and extreme rainfall events and the potential to impact the safety and wellbeing of our workforce. It is not financially material.

Risk Management

Climate change has been identified as a Material risk by OZ Minerals since 2017. Assessment and management of climate-related physical and transition risks (threats and opportunities) occurs through our Risk Management Framework, consistent with the process for all risks at OZ Minerals.

Physical climate risks are assessed by our assets and projects to account for their individual operating contexts. As noted in the Strategy section, Material physical climate risks identified by our Australian assets in 2020 were reviewed in 2021. Our assets also maintain risks (opportunities) linked to the execution of their decarbonisation plans which support our Decarbonisation Roadmap. Assessing and managing these risks at our assets means controls and actions identified are specific to the asset, and accountability for their execution rests with the asset management team.

Transition risks are identified and managed at a corporate level. We identify transition risks through monitoring of trends and themes across markets, governments, industry, and other landscapes relevant to our business, as well as through formal processes such as our Strategy review.

Once identified, specific transition risks and controls are held by different corporate functions. Managing climate-related risks at both the asset and corporate levels collectively supports our integrated approach to pursue opportunities and mitigate threats associated with climate change and emissions reduction.

Metrics and Targets

In February 2022, we released our Decarbonisation Roadmap. As outlined below, the Roadmap and its commitments illustrate our short, medium, and longer-term absolute and net emissions reduction commitments and key actions we will undertake to achieve them. The Roadmap was developed over a 14 month period by a dedicated team comprised of senior management and technical representatives from our operations and corporate office.

OZ Minerals' Decarbonisation Roadmap

Our Strategic Aspiration: emit zero Scope 1 emissions and systematically reduce Scope 2 and 3 emissions across our value chain

Our Decarbonisation Roadmap

Our actions[a]	How we plan to deliver
50% reduction in Scope 1 emissions by 2027	Invest in electric hoisting shaft at Prominent Hill ($275m) and extend the electric materials handling system at Carrapateena ($140m). Committed and being actioned. $6.9m investment at Pedra Branca in 2022 to convert diesel to grid-electricity via substation. Committed and being actioned.
Ongoing zero emissions equipment trials, to address majority of remaining Scope 1 emissions	By 2023, up to $12m in equipment trials will be underway and, if successful, will provide a pathway for removing the bulk of the remaining operational diesel. Investment in equipment replacement to remove remaining operational diesel to be determined post trials. Trials and equipment replacement will be ongoing to support achievement of our aspiration to emit zero Scope 1 emissions.
Net zero[b] Scope 1 & 2 by 2030	Focus on directly reducing our emissions. Leverage electricity grid decarbonisation. Net zero residual Scope 1 and 2 emissions.
Systematically reduce Scope 3 emissions	Develop a reduction pathway focussing on key sources.

All new assets or acquistions required to have a Decarbonisation Plan to reach at least net zero Scope 1 and Scope 2 emissions[b] as part of Final Investment Decision (FID).

[a] Current operating assets, relative to FY21 baseline, excluding construction periods

[b] Our approach requires all technically and economically feasible emissions reduction options to be exhausted prior to the application of certificates, in the form of offsets and/or renewable energy certificates.

Decarbonisation The OZWay

Our journey to decarbonisation is guided by our Purpose, *Going beyond what's possible to make lives better* and our Strategic Aspiration to *emit zero Scope 1 emissions and systematically reduce Scope 2 and 3 emissions across our value chain.*

Through our Decarbonisation Roadmap, OZ Minerals aims for our current operating assets to **reduce our Scope 1 emissions by 50 per cent by 2027**, relative to a FY21 baseline. We will do this by electrifying materials handling to reduce trucking at our South Australian operations and **commencing trials of zero emissions equipment by 2023** to inform a pathway to reducing remaining operational emissions as a priority.

As a signpost on our journey, we have set a **medium-term commitment of net zero emissions by 2030** which includes residual Scope 1 and 2 emissions. Our commitment will be supported by the rapid decarbonisation of the electricity systems in South Australia and Pará State, further absolute reductions in Scope 1 emissions, and application of quality offsets (or renewable energy certificates) which **create value for our stakeholders**.

Certificates will be used only to address residual emissions; our priority remains to reduce our carbon footprint.

We will continue to work with our suppliers and partners to **reduce Scope 3 emissions**, focusing on key sources. Our approach will be guided by development of a reduction pathway.

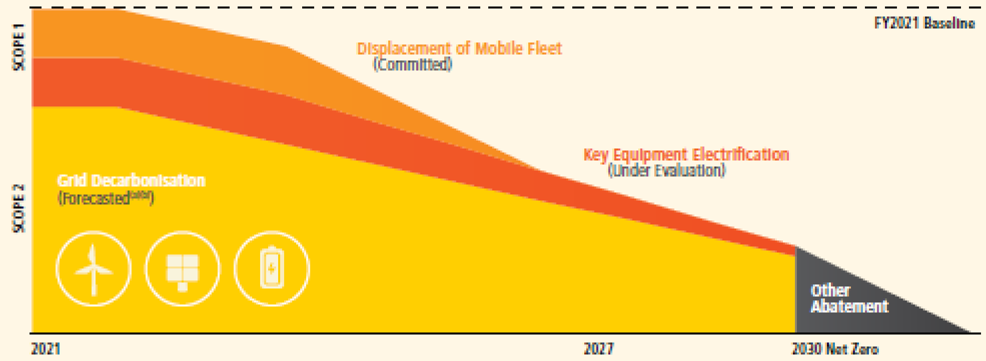
Our decarbonisation journey is **delivered through *The OZWay*** which systematises the commitments and ensures we create value for our stakeholders.

As a growth company, new assets or acquisitions which become part of the OZ Minerals portfolio will be required to have an ambitious actionable Decarbonisation Plan to reach at least net zero, or zero Scope 1 and Scope 2 emissions[b] where technically and economically feasible to do so.

Our current Scope 1, 2, and 3 emissions:

- **Scope 1** 94,720 tCO_2-e
- **Scope 2** 249,902 tCO_2-e
- **Scope 3** 324,915 tCO_2-e

Figure 1 – Scope 1 and 2 emissions reduction pathway for current operating assets



Note: Illustrative only.

[a] Location Based Reporting.

[b] Forecast decarbonisation of the SA grid in line with *Australian Emission Projections 2021, by Department of Industry, Science, Energy and Resources.*

In addition to setting our commitments, we have commenced a series of emissions reduction initiatives and partnerships, including the launch of our Hydrogen Hypothesis challenge which invites innovators from inside and outside our industry, across the globe to propose safe experiments to demonstrate the role hydrogen could play in the mining value chain. We are also exploring partnerships with hydrogen and battery-powered heavy haulage manufacturers to understand options for reducing emissions associated with transport of our product. We are a member of the CRC for Transformations in Mining Economies (CRC TiME), Electric Mine Consortium and NEXGEN SIMS, collaborations focusing on climate change and emissions reduction for mining. We explored a range of government funding opportunities associated with renewable energy and emissions reduction technology in 2021 and will continue to do so into the future.

Metrics

In addition to our internal carbon pricing scenarios which were updated in 2021, our Stakeholder Value Creation Metrics (SVCMs) (page 71) are a central component of our work methodology, forecasting, and business performance. The SVCMs complement our existing disclosures of key metrics (page 98) and include several energy, emissions, and climate-related metrics:

- Scope 1 emissions
- Scope 2 emissions
- Emissions intensity (Scope 1 and 2 emissions per tonne copper equivalent (tCO_2-e/tCuEq)
- Renewable energy percentage
- Net energy intensity (GJ/tCuEq)
- Water intensity (ML/tCuEq)
- Water withdrawal in areas of extreme water stress.

Scope 3 emissions

In 2021, we baselined our Scope 3 emissions for the first time. Our total Scope 3 emissions are 324,915 tCO_2-e, with the majority (>62 per cent) from downstream processing and smelting. Other key sources include charter flights to our assets (9,899 tCO_2-e) and shipping of our product (17,430 tCO_2-e).

In recognition of the importance of delivering our decarbonisation commitments, executive short term remuneration now contains elements related to implementation and the Long Term Incentive contains an ESG measure with a 20 per cent weighting.

THE OZWAY: OUR PERFORMANCE – SCOPE 3 BASELINE

Figure 2 – Overview of our Scope 3 emissions

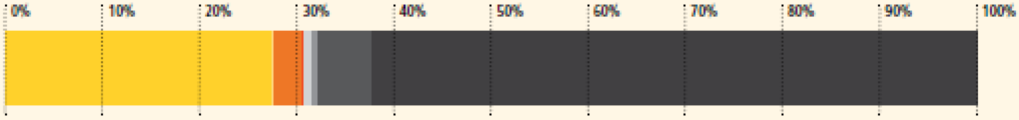
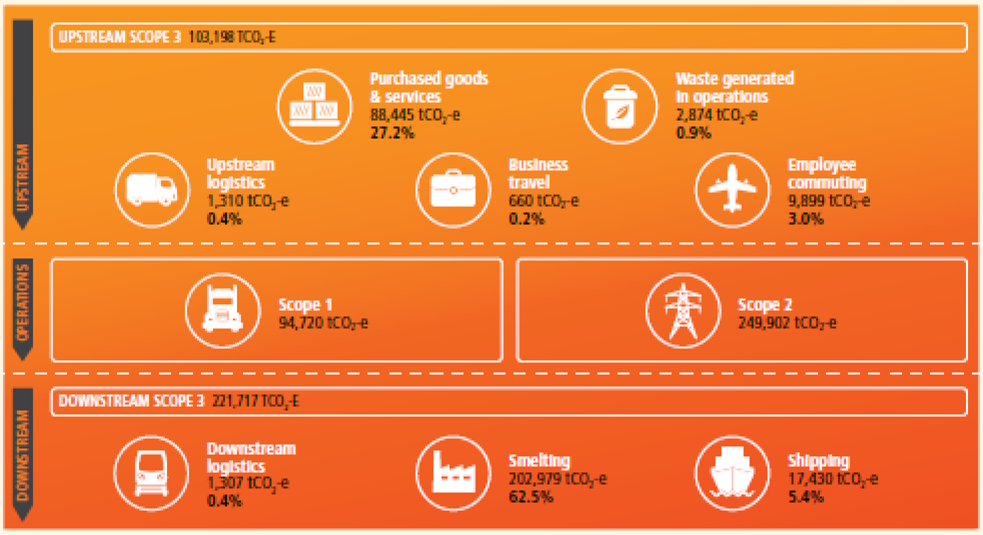


Figure 3 – Emissions profile



Illustrative of main Scope 3 greenhouse gas emissions sources. May differ from individual asset or corporate function value chain.

Note:

- Our Scope 3 baseline has been calculated using methodology adapted from the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Standard
- Data for some Scope 3 sources covers the 1 July 2020 to 30 June 2021 period, while others cover the 1 January to 31 December 2021 period
- Downstream Scope 3 emissions have not been calculated beyond smelting
- Industry-specific emissions factors have been used in the calculation where raw data were unavailable.

TCFD Action Plan

TCFD category and recommended disclosures	2021 Actions Defining our performance	2021 Actions	2022 Maturing our approach
Governance			
a) Board's oversight of climate -related risks and opportunities b) Management's role in assessing and managing climate-related risks and opportunities	⁄ Bi-annual review of climate-related control actions ⁄ Continue to build employee capability regarding climate-related risk ⁄ Further build internal capability, including Scope 3 emissions	⁄ Reviewed and updated of material physical climate risks. Reviewed emissions reduction risks to align with Decarbonisation Roadmap ⁄ Climate risk and decarbonisation workshops with external SMEs, show-case event, deep dives with Board, reporting of climate and decarbonisation to Sustainability Committee, and key contractors, Scope 3 emissions framework	⁄ Review governance approach to climate-related threats and opportunities ⁄ Review climate-related roles and responsibilities, including for implementation of our Decarbonisation Roadmap
Strategy			
a) Climate-related opportunities and threats the organisation has identified over short, medium, and long-term b) Impact of climate-related risks and opportunities on business Strategy and financial planning c) Resilience of organisation's Strategy, including to a 2°C or lower scenario	⁄ Conduct further physical and transition climate-related opportunity and threat assessment using scenario analysis, incorporating asset and corporate functions. Consider outcomes as part of annual Strategy reviews ⁄ Implement priority control actions ⁄ Further refine internal decision-making tools (e.g. carbon pricing) ⁄ Undertake transition risk assessment using scenarios aligned to Paris Agreement goals ⁄ Consider approaches for financial analysis and disclosure ⁄ Enhance suite of GHG reduction tools	⁄ Paris Agreement-aligned scenario included in review of Company Strategy, including consideration of transition risks ⁄ Carbon pricing scenarios updated and used in PHOX project (will be component of all future OZ Minerals project valuations) ⁄ Power and emissions driver trees developed for Asset decarbonisation plans ⁄ Capital allocation quantified in asset decarbonisation plans ⁄ Launch of *Hydrogen Hypothesis* TAD challenge	⁄ Consider material climate-related threats and opportunities in asset planning ⁄ Enhance suite of internal decision-making tools ⁄ Continue review of Company Strategy in context of decarbonisation opportunities ⁄ Commence implementation of Decarbonisation Roadmap ⁄ Consider climate-related risks (threats and opportunities) across value chain and supply chain ⁄ Further consider how climate-related issues serve as an input to financial planning, time periods, and risk prioritisation
Risk management			
a) Process for identifying and assessing climate-related risks and opportunities b) Process for managing climate-related risks and opportunities c) How climate-related risk management is integrated into overall risk management	⁄ Ensure climate-related opportunity and threat control ownership is clearly defined ⁄ Support risk owners to manage climate-related opportunities and threats ⁄ Review and update physical climate risk assessments	⁄ Reviewed physical climate change and emissions reduction risks, including physical climate risk assessment for Brazil assets ⁄ Formation of dedicated multi-asset operational and management 'Power Team'	⁄ Review process and climate-related risks for value chain ⁄ Further refine approach to climate-related risk management ⁄ Develop our approach to carbon offsets
Metrics and targets			
a) Metrics used to assess climate-related risks and opportunities in line with Strategy and risk management processes b) Scope 1 and 2 GHG emissions, and if appropriate, Scope 3 c) Targets used to manage climate-related risks and opportunities and performance against targets	⁄ Benchmarking of disclosure frameworks, standards and peers' approaches ⁄ Engagement with ESG analysts re disclosures › Establishment of internal monthly Asset metrics reporting framework › Development of Stakeholder Value Creation Metrics	⁄ Decarbonisation Roadmap and commitments released 21 February 2022 ⁄ Asset decarbonisation plans developed as part of Company Decarbonisation Roadmap › Assets report SVCMs monthly › SVCMs reported with trend in 2021 Sustainability Report › Scope 3 emissions baselined	⁄ Continue to report on SVCMs ⁄ Report on delivery of Decarbonisation Roadmap ⁄ Further investigate opportunities for working with value chain partners to reduce Scope 3 emissions via development of a reduction pathway focussing on key sources ⁄ Disclose metrics which are more closely aligned with the identified climate-related risks ⁄ Review and evolve SVCMs as required and leverage to embed performance

Appendix 2: TCFD progress: ANZ bank (2021) (ASX: ANZ)

OUR PROGRESS ON THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

	Our progress to date	Focus areas – 2022/23	Beyond 2022 vision
Governance	• Board Risk Committee oversees management of climate-related risks • Board Ethics, Environment, Social and Governance (EESG) Committee approves climate-related objectives, policy and targets • Ethics and Responsible Business Committee (executive management) oversees our approach to environment, social and governance (ESG) risks and opportunities, and reviews climate-related risks	• Align with regulatory guidance on climate-related risk governance, including stress-testing of selected portfolios	• An enhanced risk management framework that anticipates potential climate-related impacts, and associated regulatory requirements
Strategy	• ANZ's Climate Change Statement (available at anz.com) confirms support for the Paris Agreement goals and transition to a net zero carbon economy • Managing the net zero carbon transition focuses on an orderly transition that recognises and responds to social impacts • Participated in APRA's climate vulnerability assessment (CVA) to assess portfolio transition and physical risks • Low carbon products and services within our Institutional business focused on climate-related opportunities • Analysis of flood-related risks for our home loan portfolio in a major regional location of Australia and associated test-pilot of socio-economic indicators showing financial resilience of home loan customers with respect to flood risk	• Extending analysis of flood-related risks to incorporate bushfire and other risks relating to retail customers through the CVA • Include climate risk reference in lending guidance documents for relevant industry sectors used by our front line bankers	• ANZ business strategy to grow in a way that is more closely aligned to a resilient and sustainable economy that supports the Paris Agreement goals and Sustainable Development Goals (SDGs)
Risk management	• Climate change risk added to Group and Institutional Risk Appetite Statements • Climate change identified as a Principal Risk and Uncertainty in our UK Disclosure and Transparency Rules (DTR) Submission • Guidelines and training provided to over 1,000 of our Institutional bankers on customers' transition plan discussions • Enhanced financial analysis and stronger credit approval terms applied to agricultural property purchases in regions of low average rainfall or measured variability • New agribusiness customers assessed for financial resilience and understanding of rainfall and climate trends in their area, and water budgets considered if irrigating	• Encouraging and supporting 100 of our largest emitting business customers to implement and, where appropriate, strengthen their low carbon transition plans and enhance their efforts to protect biodiversity, by end 2024 • Customer engagement to identify customer or sector-specific transition or physical risks, focused on corporate and Institutional customers • Further develop an enhanced climate risk management framework that strengthens our governance and anticipates potential climate-related impacts and associated regulatory requirements	• Further integrate assessment of climate-related risks into our Group risk management framework • Standard discussions with business customers include climate-related risks and opportunities • Assessment of customer transition plans part of standard lending decisions and portfolio analysis
Metrics and targets	• Support 100 of our largest emitting business customers to establish or strengthen low carbon transition plans by 2021, with metrics developed to track progress • Metrics to enable our progress to be tracked in reducing 'financed emissions', beginning with two key sectors: large-scale commercial property and power generation. Metrics are tailored to each sector (e.g. carbon emissions per square metre of net lettable space for commercial property) and disclosed every 12 months • $50 billion target to fund and facilitate sustainable solutions by 2025 • Target to procure 100% renewable electricity for ANZ's operations by 2025 • Ongoing emissions reduction targets for ANZ energy use aligned with the Paris Agreement goals	• Complete transition plan engagement with high emitting customers and consider how to integrate into our regular customer assessments • Implement targets to reduce metrics for 'financed emissions' in key sectors by 2030 towards a long-term net zero goal by 2050 • Consider expanding new metrics for measuring impact of our progress on environmental sustainability to other key sectors	• Continue to evolve our reporting with leading practices to measure the alignment of our lending with the Paris Agreement goals • Reduce ANZ's operational emissions in line with the decarbonisation trajectory of the Paris Agreement goals

Appendix 3: Remuneration Report: BlueScope Steel Ltd (ASX: BSL) 2021

Performance conditions

A summary of the performance measures and relative weightings for the FY2021 STI Plan are shown below:

Performance measures		MD & CEO	Other Executive KMP
Financial performance	BlueScope underlying ROIC (2/3), Free Cash Flow from Operations (1/3)	50%	25%
	Business Unit underlying ROIC (2/3), Cash Flow from Operations (1/3)	0%	25%
Safety	Safety performance measures, including TRIFR and leading indicators aligned to the HSE evolution program	5%	5%
Strategic objectives, incl Sustainability	Performance measures based on the execution and implementation of key annual business priorities	45%	45%

Refer to section 4.2 for the CEO's detailed STI scorecard, including performance targets.

Financial Measures

Financial measures are selected to align with BlueScope's annual budget, targets and longer-term plan. They are designed to reinforce and drive business strategy.

Safety

Safety remains BlueScope's number one priority. A gateway of no fatalities applies, overlayed with a TRIFR target, and a requirement to meet additional leading indicators in order to achieve target or above.

TRIFR includes Fatalities, Lost Time Injuries, Medical Treatment Injuries and work restrictions of more than seven days. Combined with the leading indicator, the safety objective focuses leaders on reducing the severity of incidents and injuries while building Health, Safety and Environment capability and identifying and implementing high level controls for material risks.

Strategic Measures

The strategic measures vary by role and from year to year for each individual. They are primarily linked to the successful achievement of material and strategic projects with long-term impact on BlueScope's success. Projects can be either corporate or business unit driven.

Executive KMP each has a component of their strategic measures linked to BlueScope's material sustainability topics. These include objectives linked to achieving BlueScope's greenhouse gas emissions intensity reduction targets for the MD & CEO and the leaders of each of our three steelmaking sites.

(a) STI plan applied in FY2021

(b) Proposed FY2022 short term incentive plan

FY2022 Short Term Incentive Plan

Based on a review of the STI plan and considering feedback received from investors and other stakeholders last year, the ROC has approved some changes to the STI to apply from FY2022. These changes are summarised below and will be disclosed in detail in the FY2022 Remuneration Report.

To reflect the increasing importance of ESG indicators as a measure of sustainable success, the STI scorecard has been rebalanced. From FY2022, 25 per cent of the weighting in the STI scorecard will be allocated to the key sustainability areas of safety (10 per cent) and other ESG measures including climate change (15 per cent) as shown in the diagram below. Financial measures remain weighted at 50 per cent and the remaining 25 per cent is allocated to individual objectives relevant to the executive's role and BlueScope's strategy.

Appendix 4: Extract from auditor's report issued to Alumina Ltd (ASX: AWC) (2021): KAM risk

Key audit matter	How our audit addressed the key audit matter
Impairment indicator assessment for Alumina Limited's equity accounted investment in AWAC *(Refer to note 2)* Alumina's equity accounted investment in AWAC ($1,741.8 million) is the most material balance sheet item in the consolidated financial report. Under Australian Accounting Standards, Alumina Limited is required to perform an assessment to determine whether there are indicators that the equity accounted investment in AWAC could be impaired. Alumina's conclusion was that there was no indicator of impairment for the year ended 31 December 2021. We considered the impairment indicator assessment a key audit matter because Alumina's equity accounted investment in AWAC is the most material balance sheet item in the consolidated financial report and significant judgement is required to assess whether there are any indicators of impairment by reviewing future alumina and aluminium prices, exchange rates, energy prices and other input prices, and the effect of climate related risks and opportunities.	To evaluate the Group's impairment indicator assessment of the AWAC investment we performed the following procedures amongst others: • Developed an understanding of the process by which the Group conducted the impairment indicator assessment and whether it was appropriate under AAS. • Performed an independent assessment of indicators of impairment by: – Considering future alumina and aluminium prices, exchange rates, energy prices and other input prices and the effect of climate related risks and opportunities, by reviewing both internal information and that published by external economic and industry analysts and participants; – Comparing the Group's market capitalisation to its net assets at 31 December 2021, noting that market capitalisation exceeded net assets; and – Evaluating the completeness of the Group's assessment of whether there were any other external or internal sources of information that could indicate that the investment may be impaired.

Appendix 5: Extract from auditor's report issued to National Australia Bank Ltd (ASX: NAB) (2021): KAM procedures

Why significant	How our audit addressed the key audit matter
Provision for credit impairment	
As described in Note 17 *Provision for credit impairment on loans at amortised cost* and Note 19 *Financial risk management*, the provision for credit impairment is determined in accordance with Australian Accounting Standard – AASB 9 *Financial Instruments* (AASB 9). This was a key audit matter due to the value of the provision, and the degree of judgment and estimation uncertainty associated with the provision calculation. Key areas of judgment included: ▶ the application of the impairment requirements of AASB 9 within the Company's and the Group's expected credit loss methodology; ▶ the identification of exposures with a significant deterioration in credit quality; ▶ assumptions used in the expected credit loss model (for exposures assessed on an individual or collective basis); and ▶ the incorporation of forward-looking information to reflect current and anticipated future external factors, including judgments related to the ongoing impact of COVID-19, both in the multiple economic scenarios and the probability weighting determined for each of these scenarios.	We assessed the alignment of the Group's expected credit loss model and its underlying methodology against the requirements of AASB 9, with consideration of ongoing COVID-19 impacts and related industry responses. We assessed the following for exposures evaluated on a collective basis and overlays: ▶ significant modelling and macroeconomic assumptions, including the reasonableness of forward-looking information and scenarios; ▶ the basis for and data used to determine overlays; and ▶ sensitivity of collective provisions to changes in modelling assumptions. We involved our actuarial specialists to test the mathematical accuracy of the model and to consider key assumptions. We examined a sample of exposures assessed on an individual basis by: ▶ assessing the reasonableness and timeliness of internal credit quality assessments based on the borrowers' particular circumstances; and ▶ evaluating the associated provisions by assessing the reasonableness of key inputs into the calculation, with particular focus on the impact of COVID-19 on high-risk industries, work out strategies, collateral values, and the value and timing of recoveries. In conjunction with our IT specialists, we assessed the effectiveness of relevant controls relating to the: ▶ capture of data, including loan origination and transactional data, ongoing internal credit quality assessments, storage of data in data warehouses, and interfaces with the models; and ▶ expected credit loss models, including functionality, ongoing monitoring/validation and model governance. We considered the processes used to identify and assess climate-related risks associated with the Company's and the Group's provision for credit impairment. We considered the adequacy and appropriateness of the disclosures related to credit impairment within the Financial Report.

Appendix 6: Extract from auditor’s report issued to Rio Tinto (ASX: RIO) (2020)

The impact of climate change on our audit	In planning our audit, we considered the potential impacts of climate change on the Group’s business and its financial statements. Unlike other major resources companies, the Group does not mine or extract hydrocarbons such as coal, natural gas or oil but it does emit greenhouse gases directly from energy used in its mining operations, the processing of metals and minerals, and the transportation of its products. The Group’s products are used in energy and carbon intensive industries including steel or aluminium production. The Group has set out its targets under the Paris Agreement to reduce carbon intensity by 30% and absolute emissions by 15% by 2030, and to be net carbon neutral by 2050 for Scope 1 and Scope 2 emissions. Further information is provided in the Strategic Report on pages 79 to 85 and the Group’s Climate Change report. Climate change initiatives and commitments impact the preparation of the Group’s financial statements in a variety of ways, all with inherent uncertainties. As explained in note 1 of the financial statements, the Group has considered certain commodity and carbon pricing scenarios in assessing the impact of climate change in preparing its financial statements. For the Group, other judgments and estimates are also expected to include the setting of useful economic lives for carbon intensive property and equipment (such as aluminium smelting or coal fired power plants), the valuation of assets or the determination of impairment charges taking into account future pricing assumptions and estimates of mine life and closure and rehabilitation costs. Climate change also impacts the long-term viability of aspects of the mining industry especially given greenhouse gas intensity in the use of certain of the industry’s products (measured under Scope 3 emissions). However, whilst the Group has set targets to be carbon neutral by 2050, the consequences, in terms of investment, its cost base and impact on cash flows are still being assessed as the Group considers how it will work towards meeting these targets. To the extent there are known implications these have been reflected in the financial statements in accordance with IFRS requirements and have been considered in our audit as set out in our key audit matters. It is therefore likely that the future carrying amounts of assets or liabilities will change for these other judgments and estimates as the Group responds to its climate change targets. Our Key Audit Matters explain how we have assessed the Group’s climate related assumptions and relevant disclosures in arriving at our audit conclusions. This includes the use of our own climate change and sustainability specialists. We have also read the Group’s disclosure of climate related information in the front half of the annual report and compared this to our knowledge gained from our financial statement audit work. The Group’s disclosures in the financial statements of the potential impacts of climate change and the assumptions used in setting key estimates and judgments has increased significantly this year. We have discussed with the Group ways in which climate change disclosures should continue to evolve as the Group continues to evaluate pathways to being net carbon neutral.

Appendix 7: Assurance Report issued to QBE Insurance Group Ltd (ASX: QBE) (2021)

Independent Limited Assurance Report

to the Directors and Management of QBE Insurance Group Limited

Deloitte.

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Conclusion

We have undertaken a limited assurance engagement on QBE Insurance Group Limited's Sustainability Performance Indicators ('Subject Matter Information') disclosed in the QBE 2021 Sustainability Report detailed below for the year ended 31 December 2021.

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the Subject Matter Information is not prepared, in all material respects, in accordance with the Reporting Criteria detailed below for the year ended 31 December 2021.

Subject Matter Information and Reporting Criteria

The Subject Matter Information and 'Reporting Criteria' for our limited assurance engagement for the year ended 31 December 2021 is as follows:

SUSTAINABILITY PERFORMANCE INDICATORS ('SUBJECT MATTER INFORMATION')	REPORTING CRITERIA
Current Premiums4Good investments; Security and investment total (count of securities and US$), page 28	QBE 2021 Sustainability Reporting Framework
QBE Voice survey results – Employee engagement and enablement score including response rate (%), page 44, 53	QBE 2021 Sustainability Reporting Framework
Overall workforce; Geographic footprint by division (headcount), workforce (%) by employment level and gender, average tenure by gender across levels of workforce, overall workforce by age and gender (headcount), parental leave by gender including return to work and retention rate (%), page 51-53	GRI standard 405-1 (2016) GRI Standard 401-3 (c),(d),(e) (2016) QBE 2021 Sustainability Reporting Framework
Overall workforce by average age by division, page 52	QBE 2021 Sustainability Reporting Framework
Attrition by gender, age group and division - Overall terminations (headcount), voluntary attrition (%), involuntary attrition (%), overall attrition (%), page 52	GRI 401-1(b) (2016) QBE 2021 Sustainability Reporting Framework
Workforce diversity indicators by ethnicity, gender identity, disability and carer responsibility (including care provided to) (%), page 53	GRI standard 405-1(b) (2016) QBE 2021 Sustainability Reporting Framework
Diversity breakdown of workforce – part-timers by gender (headcount) and % of total workforce, page 51	QBE 2021 Sustainability Reporting Framework
2021 performance against targets (excluding baseline); Greenhouse gas emissions (tCO_2-e) by activity, key performance indicators – GHG emissions intensity (tCO_2-e), other environmental indicators, page 58, 59	GRI standard 305-1, 305-2, 305-3, 305-4 (2016) QBE 2021 Sustainability Reporting Framework

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SUSTAINABILITY PERFORMANCE INDICATORS ('SUBJECT MATTER INFORMATION')	REPORTING CRITERIA
Five selected material topics as referenced on pages 12 and 13 of QBE's 2021 Sustainability Report ('Material Topics Assurance'): • Affordability and accessibility • Climate risks and opportunities • Inclusion of diversity • Human rights and modern slavery • Responsible underwriting	GRI's Reporting Principles for defining report content and report quality.

Basis for Conclusion

We conducted our limited assurance engagement in accordance with the Australian Standard on Assurance Engagements ASAE 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information* ("ASAE 3000"), issued by the Australian Auditing and Assurance Standards Board.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Management's Responsibilities

Management of QBE is responsible for:

a. ensuring that the Subject Matter Information is prepared in accordance with the Reporting Criteria;

b. confirming the measurement or evaluation of the underlying subject matter against the Reporting Criteria, including that all relevant matters are reflected in the Subject Matter Information;

c. designing, establishing and maintaining an effective system of internal control over its operations and financial reporting, including, without limitation, systems designed to assure achievement of its control objectives and its compliance with applicable laws and regulations; and

d. the electronic presentation of the Subject Matter Information and our limited assurance report on their website.

Our Independence and Quality Control

We have complied with the independence and other relevant ethical requirements relating to assurance engagements, and applied Auditing Standard ASQC 1 *Quality Control for Firms that Perform Audits and Reviews of Financial Reports and Other Financial Information, Other Assurance Engagements and Related Services Engagements* in undertaking this assurance engagement.

Assurance Practitioner's Responsibilities

Our responsibility is to express a limited assurance conclusion on the QBE Insurance Group Limited's Subject Matter Information as evaluated against the Reporting Criteria based on the procedures we have performed and the evidence we have obtained. ASAE 3000 requires that we plan and perform our procedures to obtain limited assurance about whether, anything has come to our attention that causes us to believe that the Subject Matter Information is not properly prepared, in all material respects, in accordance with the Reporting Criteria.

A limited assurance engagement in accordance with ASAE 3000 involves identifying areas where a material misstatement of the Subject Matter Information is likely to arise, addressing the areas identified and considering the process used to prepare the Subject Matter Information. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not express a reasonable assurance opinion about whether the Subject Matter Information has been properly prepared, in all material respects, in accordance with the Reporting Criteria.

Our procedures included:

- Inquiries with Subject Matter data owners and sustainability report responsible management to understand and assess the approach for collating, calculating and reporting the respective Subject Matter Information across the reporting period ended 31 December 2021.

- Inspection of documents as part of the walk-throughs of key systems and processes for collating, calculating and reporting the respective Subject Matter Information for QBE's 2021 Sustainability Report.
- Selection, on a sample basis, of items to test from the selected sustainability performance indicators and agree to relevant supporting documentation.
- Analytical reviews over material data streams to identify any material anomalies for the Subject Matter Information and investigate further where required.
- Agreeing overall data sets for the Subject Matter Information to the final data contained in QBE's 2021 Sustainability Report.
- For Material Topics Assurance, reading all chapters containing information related to the five selected material topics and evaluating them against the Reporting Criteria and, on a sample basis, inspecting evidence supporting those assertions.

Other Information

Management is responsible for the other information. The other information comprises QBE's 2021 Sustainability Report for the reporting period 1 January 2021 to 31 December 2021, but does not include the Sustainability Performance Indicators and the selected material topics listed above within QBE's 2021 Sustainability Report.

Our opinion on the Subject Matter Information does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our engagement, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the knowledge obtained during the engagement, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Inherent Limitations

Because of the inherent limitations of an assurance engagement, together with the inherent limitations of any system of internal control, there is an unavoidable risk that it is possible that fraud, error, or non-compliance with laws and regulations, where there has been concealment through collusion, forgery and other illegal acts, may occur and not be detected, even though the engagement is properly planned and performed in accordance with Standards on Assurance Engagements.

Restricted use

The applicable criteria used for this engagement was designed for a specific purpose of assisting the directors and management report on the Subject Matter Information presented in QBE's 2021 Sustainability Report, as a result, the Subject Matter Information may not be suitable for another purpose.

This report has been prepared for use by the directors and management for the purpose of reporting on the Subject Matter Information presented in QBE's 2021 Sustainability Report.

It is our understanding that QBE Insurance Group Limited intends to electronically present the assured QBE's 2021 Sustainability Report and this Assurance Report on its internet website. Responsibility for the electronic presentation of QBE's 2021 Sustainability Report on its website is that of the management of QBE Insurance Group Limited. The security and controls over information on the website should be addressed by QBE Insurance Group Limited. The examination of the controls over the electronic presentation of QBE's 2021 Sustainability Report on its website is beyond the scope of the assurance of QBE's 2021 Sustainability Report.

We disclaim any assumption of responsibility for any reliance on this report to any person other than the directors and management or for any purpose other than that for which it was prepared.

Deloitte Touche Tohmatsu

DELOITTE TOUCHE TOHMATSU

Paul Dobson
Partner

Sydney, 18 February 2022

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