



Climate change risk disclosure:

**A practical guide to reporting against ASX Corporate
Governance Council's *Corporate Governance Principles
and Recommendations***

February 2020

About the Governance Institute of Australia



With a membership of over 7,500 company secretaries, governance leaders and risk managers from some of Australia's largest organisations, Governance Institute of Australia is the only fully independent professional association with a sole focus on governance excellence. For 110 years, our education, research, advocacy, and support networks have provided cutting edge governance and risk management advice to Australian business leaders from all walks of life. We celebrate Australia's successes, and challenge it to be even better.



Foreword

APRA welcomes this Guidance by Governance Institute of Australia to assist its members to report on climate change risk. The impacts of a changing climate have proven to be foundational drivers of both risk and opportunity, affecting structural change within the global economy.

The 4th edition of the ASX's Corporate Governance Council's *Corporate Governance Principles and Recommendations* represent another important step in the increasing national and international recognition of these material risks and opportunities that must be carefully considered and evaluated by businesses. As well as providing a useful overview of the shift in stakeholder expectations, this Guidance sets out useful steps that entities can take to identify and disclose on their climate risks in accordance with the Task Force on Climate-related Financial Disclosures (TCFD) Recommendations.

APRA continues to collaborate with local and international regulators in our multi-stakeholder engagements to urge APRA-regulated entities and the wider businesses community to consider climate change as a core financial risk that must be identified, managed and disclosed. We consider that climate risk should be an integral part of business strategy and risk management frameworks and I have strongly encouraged companies to commit to the disclosure regime as set out by the TCFD.

This Guidance is a valuable tool that will support ASX-listed entities and others in their management and public disclosure of climate risks. The continued efforts to improve understanding of climate change financial risk are essential to support strategic decision-making for all businesses. Such action will ultimately be of benefit not just to the individual businesses but the economy as a whole.

Geoff Summerhayes

APRA Executive Board Member

Chair UNEP Sustainable Insurance Forum

Glossary

APRA	Australian Prudential Regulation Authority
ASIC	Australian Securities and Investments Commission
ASX	Australian Securities Exchange Limited
AASB	Australian Accounting Standards Board
AUASB	Auditing and Assurance Standards Board
CDP	Carbon Disclosure Project
CDSB	Climate Disclosure Standards Board
Corporations Act	<i>Corporations Act 2001</i>
CSIRO	Commonwealth Scientific and Industrial Research Organisation
ESG	Environmental, social and governance
GRI	Global Reporting Initiative
IIRC	International Integrated Reporting Council
IPCC	Intergovernmental Panel on Climate Change
IOSCO	International Organization of Securities Commissions
NASA	National Aeronautics and Space Administration
NGER	National Greenhouse and Energy Reporting
OECD	The Organisation for Economic Co-operation and Development
OFR	Operating and financial review
Paris Agreement	The United Nations Framework Convention on Climate Change, effective November 2016
Principles and Recommendations	<i>ASX Corporate Governance Council's Corporate Governance Principles and Recommendations, 4th edition</i>
RBA	Reserve Bank of Australia
SASB	Sustainability Accounting Standards Board
Task force or TCFD Recommendations	Task Force on Climate-related Financial Disclosures Recommendations
UNGC	United Nations Global Compact
UNEP	United Nations Environment Programme
UNPRI	United Nations Principles for Responsible Investment
WRI	World Resources Institute
WWF	World Wide Fund for Nature

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Chapter 1

Executive summary

This guidance has been developed to provide practical assistance for ASX-listed entities and others to report against Recommendation 7.4 (material exposure to environmental or social risks) of the ASX Corporate Governance Council's Principles and Recommendations (Principles and Recommendations). The guidance focuses on climate-change risk, a critical environmental risk captured by Recommendation 7.4.

The fourth edition of the [Principles and Recommendations](#) takes effect for an entity's first full financial year commencing, on, or after 1 January 2020. Entities are encouraged to adopt the fourth edition earlier if they wish. While the third edition of the Principles and Recommendations currently requires entities to disclose material exposure to 'economic, environmental and social sustainability risks', the fourth edition explicitly refers to climate change risk. Recommendation 7.4 encourages entities to both consider whether they have material exposure to climate change risk by reference to the Task Force on Climate-related Financial Disclosures Recommendations (TCFD Recommendations) and, if they do, make the disclosures recommended by the TCFD.

The amendments to the Principles and Recommendations are one of a series of recent Australian and international developments around climate change risk.

The catalyst for mainstream market concern around climate change is generally attributed to the Paris Agreement. The Paris Agreement commits 196 signatory countries, including Australia, to limiting the 'increase in the global average temperature to well below 2°C above pre-industrial levels' and shifting the global economy to an emissions platform of net zero in the second half of this century. The [Intergovernmental Panel on Climate Change IPCC](#)¹ released a report in October 2018 on the impacts of global warming of 1.5 °C above pre-industrial levels calling for urgent and unprecedented changes to meet the goals of the Paris Agreement. The [UN Environment Programme](#) (UNEP) also releases annual stocktake reports on global emissions.²

Australian regulators and standard setters have all strongly signalled that they will be monitoring entities' management of climate change risk and have referred to the [TCFD Recommendations](#) as a preferred disclosure framework:

- Since 2016 the Australian Prudential Regulation Authority (APRA) has indicated its interest in how entities are managing climate-related risk.
- In late 2018, the Australian Accounting Standards Board (AASB) and the Auditing and Assurance Standards Board (AUASB) issued joint guidance on assessing climate-related

risks in the context of financial statement materiality.

This guidance signalled to report preparers, assurers and auditors that they must approach climate change-related issues with the same degree of rigour as any other financial variable.

- In early 2019, Dr Guy Debelle, deputy governor of the Reserve Bank of Australia (RBA) delivered a landmark speech. He highlighted that both the physical impacts of climate change and the transition to a less-carbon intensive world are likely to have first-order economic effects. In its October 2019 Financial Stability Report, the RBA observed, 'Climate change is exposing financial institutions and the financial system more broadly to risks that will rise over time, if not addressed'.³
- The Australian Securities and Investments Commission (ASIC) has indicated interest in climate-related risks for several years. In August 2019 it published updates to clarify the application of its existing regulatory guidance to the disclosure of climate change-related risks and opportunities in prospectuses for retail investors or an entity's operating and financial review.⁴

These regulators are all also involved in several international initiatives on climate change risk.

In early 2019, the landmark legal opinion (first issued in 2016) on directors' duties and climate change was revised to the effect that the potential liability of directors in relation to climate change is increasing exponentially.⁵ The opinion highlights two key learnings for governance professionals: the need to understand directors' duties relating to the risks to business from climate change and to ensure adequate disclosure relating to material risks from climate change.

Against this backdrop of Australian regulatory interest in the management and disclosure of entities' exposure to climate-related risk, investor and community interest in the issue continues to grow. In early 2019, the [International Organization of Securities Commissions](#) (IOSCO) published a [statement](#) setting out the importance for issuers of considering the inclusion of environmental, social and governance (ESG) issues when disclosing information material to investors' decisions. Many investors who are also signatories to the [UN Principles for Responsible Investment](#) (UNPRI) will now be committing to mandatory climate disclosure for reporting progress on implementing the TCFD Recommendations from 2020.⁶

1. Established under the auspices of the UN, the IPCC is the leading international body for assessing and synthesising recent scientific research on climate change.

2. These reports take stock of where global greenhouse gas emissions are headed versus where they need to be to avoid the worst impacts of climate change. The most recent report was in 2018, [The Emissions Gap Report 2018](#).

3. [Climate Change and the Economy](#). Dr Guy Debelle, Deputy Governor, RBA, 12 March 2017 speech to the Centre for Policy Development. See also [Financial Stability Review](#), RBA, October 2019 Box C.

4. This guidance is [Regulatory Guide 228 Prospectuses: Effective disclosure for retail investors](#) and [Regulatory Guide 247 Effective disclosure in an operating and financial review](#).

5. Noel Hutley SC and Sebastian-Hartford Davis, [Climate Change and Directors' Duties, Supplementary Memorandum of Opinion](#), The Centre For Policy Development, 26 March 2019, p 2.

6. An initiative of the UN Global Compact and the United Nations Environment — Finance Initiative (UNEPFI) the Principles were launched in 2006. There are now approximately 2,900 signatories, including 141 Australian investors.

Chapter 2

A context for climate change risk disclosure

This chapter provides a context for climate change risk disclosure and describes and explores the drivers behind increased reporting on climate change risk — regulatory activity, investor and community interest.

An introduction to climate change concepts⁷

Climate change science

The science of climate change is based on the work of numerous bodies. In Australia, government agencies such as the [Commonwealth Scientific and Industrial Research Organisation](#) (CSIRO) and the [Bureau of Meteorology](#), as well as university research groups and cooperative research centres, provide climate change science. Internationally, science bodies such as the [Intergovernmental Panel on Climate Change](#) (IPCC) and the [National Aeronautics and Space Administration](#) (NASA) conduct work on climate change. This science goes through a stringent process of peer review during which other scientists check the results of the research so it is reliable and quality assured. The IPCC assesses the peer-reviewed literature on climate change every five to six years and publishes its findings in assessment reports.

Greenhouse gas reporting in Australia

The National Greenhouse and Energy Reporting Scheme (NGER) Scheme was introduced in 2007 to provide data and accounting about carbon emissions / greenhouse gas emissions and energy consumption and production in Australia. Since 2012 the [Clean Energy Regulator](#) has administered the scheme and releases annual reports. The scheme operates as a national framework for reporting and disseminating company information about greenhouse gas emissions, energy production and energy consumption. Entities that meet an NGER scheme threshold must register and, once registered, report each year on emissions of a range of greenhouse gas emissions.

Under the NGER Scheme Scope 1 and Scope 2 emissions must be reported:

- **Scope 1** greenhouse gas emissions (direct emissions) are the emissions released to the atmosphere as a direct result of an activity or series of activities at a facility level.
- **Scope 2** greenhouse gas emissions are the emissions released to the atmosphere from the indirect consumption of an energy commodity. For example, 'indirect emissions' come from the use of electricity produced by the burning of coal in another facility. Scope 2 emissions from one facility are part of the Scope 1 emissions from another facility.

- **Scope 3** emissions are all indirect emissions (not included in Scope 2) that occur in the value chain of the reporting entity, including both upstream and downstream emissions. Scope 3 emissions are not reported under the Scheme.

Science-based targets

An emissions target is defined as science based if it is in line with the scale of reductions required to keep global temperature increase below 2°C above pre-industrial temperatures. Science-based targets are based on the concept of a global carbon budget. Further information on science-based targets is at:

1. [We Mean Business](#) — a global coalition of businesses working on climate change
2. [The Science Based Target Initiative](#) — a collaboration between the Carbon Disclosure Project (CDP), the UN Global Compact (UNGC), World Resources Institute (WRI), and the World Wide Fund for Nature (WWF) and one of the We Mean Business Coalition commitments.



7. For more information about climate change in Australia, see Climate Change in Australia at www.climatechangeinaustralia.gov.au/en/climate-campus/global-climate-change/.

Australian climate developments

Legal developments

FEB 2019

NSW Land and Environment Court rejects a development consent for an open-cut coalmine in the Gloucester Valley stating the 'construction and operation of the mine, and the transportation and combustion of coal from the mine, would result in the emission of greenhouse gases, which will contribute to climate change'.⁸

MAR 2019

Australian barristers Noel Hutley SC and Sebastian Hartford-Davis, issue a Supplementary Memorandum of Opinion to their 2016 landmark opinion on climate change and directors' duties. They conclude that 'the exposure of individual directors to climate change litigation is increasing, probably exponentially, with time'.⁹

Globally, the total number of climate change cases filed to date reaches 1,302 (with 148 cases in the last year).¹⁰

Principles and Recommendations

FEB 2019

February 2019, ASX Corporate Governance Council releases the fourth edition of the Principles and Recommendations with revised Recommendation 7.4 about 'material exposure to environmental or social risks'. Listed entities are required to report against the fourth edition for their first full financial year starting on, or after, 1 January 2020.

AASB and AUASB

DEC 2018

The AASB and AUASB release joint [guidance](#) on materiality assessments regarding climate-related assumptions within financial statement accounting estimates. The guidance reinforces that report preparers, assurers and auditors must approach climate change-related issues with the same degree of rigour as any other financial variable. A failure to do so may leave corporations and their directors increasingly exposed to claims for breach of duty and/or misleading disclosure under the Corporations Act.¹¹

8. *Gloucester Resources Limited v Minister for Planning* [2019] NSWLEC 7.

9. <https://cpd.org.au/2019/03/directors-duties-2019/>, p 9.

10. See [Climate change litigation update](#), Norton Rose Fulbright, March 2019.

11. This document was re-released in April 2019.

APRA¹²

FEB 2017

A speech by APRA Executive Board member Geoff Summerhayes signals APRA's strong focus on climate change risk — 'climate change is likely to have material, financial implications that should be carefully considered'.¹³

MAR 2019

APRA releases the results of its first climate risk survey of banks, insurers and superannuation trustees and advises it will embed the assessment of climate risk into its ongoing supervisory activities.¹⁴

ASIC¹⁵

NOV 2017

As a members of the [Council of Financial Regulators](#), ASIC, the RBA, APRA and the Commonwealth Department of Treasury form a working group on climate change to help ensure a coordinated response by these regulators to climate change risk

FEB 2018

ASIC observes in [Report 567](#) that it is 'prudent and appropriate for persons involved in the preparation of disclosure documents to carefully consider climate risk in the context of the issuer's business model and future strategies and prospects and make necessary disclosures where required.'

JUN 2018

ASIC Commissioner John Price delivers speech indicating that directors may have liability for failing to consider risks related to climate change.¹⁶

SEP 2018

ASIC publishes [Report 593](#), a review of climate change-related disclosures across the Top 300 listed companies (includes high-level recommendations for listed companies and their boards on climate risk disclosure).

AUG 2019

ASIC publishes updates to clarify the application of its existing regulatory guidance to the disclosure of climate change-related risks and opportunities.¹⁷

RBA¹⁸

MAR 2019

Deputy Governor of the RBA, Dr Guy Debelle, makes an announcement on climate change and its effects on the Australian economy and monetary policy

OCT 2019

In its Financial Stability Report, the RBA observed, 'Climate change is exposing financial institutions and the financial system more broadly to risks that will rise over time, if not addressed'.

12. APRA chairs the Council of Financial Regulators Working Group on Financial Implications of Climate Change, established in late 2017. APRA is also an observer within the [Central Banks and Supervisors Network for Greening the Financial System](#).

13. [Australia's new horizon: Climate change challenges and prudential risk](#). Geoff Summerhayes, Executive Board Member, APRA, Speech to the Insurance Council of Australia, 20 February 2017.

14. [Climate Change: Awareness to action](#), APRA Information Paper, 20 March 2019, p 25.

15. ASIC is an IOSCO member and participates in the IOSCO Sustainable Finance Network. In early 2019, IOSCO published a [statement](#) setting out the importance for issuers of considering the inclusion of ESG issues when disclosing information material to investors' decisions.

16. See a [speech delivered in June 2018](#) on climate change to the Centre for Policy Development.

17. [Regulatory Guide 228 Prospectuses: Effective disclosure for retail investors](#) and [Regulatory Guide 247 Effective disclosure in an operating and financial review](#).

18. The RBA is a member of the Central Banks and Supervisors Network for Greening the Financial System as well as G20 initiatives around climate change risks.

Recommendation 7.4

Recommendation 7.4 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, 4th edition states:

*A listed entity should disclose whether it has any **material exposure to environmental or social risks** and, if it does, how it manages or intends to manage those risks.*¹⁹

A 'material exposure' means 'a real possibility that the risk in question could materially impact the listed entity's ability to create or preserve value for security holders over the short, medium or longer term'.²⁰ The definition of 'environmental' risks specifically includes the risks for the entity associated with climate change.²¹

The commentary to Recommendation 7.4 highlights:

- Investors' increased desire for greater transparency about the environmental and social risks facing listed entities.
- Disclosure under the Recommendation can be made by cross-referring to an integrated report using the [International Integrated Reporting Council](#) (IIRC) Framework or a sustainability report in accordance with a recognised international standard. Examples include the [Global Reporting Initiative](#) (GRI) Standard, the various sustainability standards published by the [Sustainability Accounting Standards Board](#) (SASB) or the [Climate Disclosure Standards Board](#) (CDSB) framework for reporting environmental and natural capital.
- Entities that do not consider they have any material exposure to environmental risks should carefully consider the basis for the belief and benchmark against their peers.
- The risks, transition risks and physical risks, associated with climate change do not just affect entities involved in mining or intensive use of fossil fuels.
- Entities are encouraged to consider whether they have material exposure to climate change risk by reference to the TCFD Recommendations and, if they do, to make the recommended disclosures.

Directors' duties and climate change

In addition to regulatory activity, Australian barristers Noel Hutley SC and Sebastian Hartford-Davis issued an opinion in 2016, in which they advised that s 180(1) Corporations Act (directors' duty of care and diligence) requires directors to respond to climate change risks to the extent they intersect with the interests of the entity.²²

In March 2019 they issued a *Supplementary Memorandum of Opinion*.²³ Referring to the number of significant developments since their 2016 Opinion, they observe there is a 'profound and accelerating shift in the way Australian regulators, firms and the public perceive climate risk'. In their opinion, these developments 'elevate the standard of care expected of a reasonable director'.

Hutley and Hartford-Davis suggest that company directors, who consider climate change risks actively, disclose them properly and respond appropriately will reduce exposure to liability. But as time passes, the benchmark is lifting 'and it is increasingly difficult in our view for directors of companies of scale to pretend that climate change will not intersect with the interests of their firms. In turn, that means that the exposure of individual directors to "climate change litigation" is increasing, probably exponentially, with time.'²⁴

The opinion highlights two key learnings for governance professionals: the need to understand directors' duties relating to the risks to business from climate change and to ensure adequate disclosure relating to material risks from climate change.

In a speech to the Anglo-Australasian Law Society, Lord Sale of the UK Supreme Court observed that the 'direction of travel' in both the UK and Australia is clear in that 'environmental considerations may and, increasingly, must be taken into account by directors, particularly where there may be financial impacts on the company'.²⁵

Climate change litigation

In a 2019 update on climate change litigation, a global law firm quantified the number of climate change cases filed to date at reached 1,302, with 148 new cases filed since their previous update.²⁶ The update notes that the critical business risks posed by climate change can be divided, broadly, into physical impacts, for example, increases in mean and maximum temperatures, increased minimum temperatures and increased incidence of extreme weather events, and increases in mean sea level and transitional impacts such as changes to international and domestic policy, law, markets and customer and community attitudes towards business activities.

Associated with these risks is an increasing climate change litigation risk. Key risks to business related to climate change litigation include, among others, exposure to damages claims, financial and reputational cost of defending litigation, disruption to operations and enforcement of disclosure requirements. The majority of climate change litigation has occurred in the United States, followed by Australia, the United Kingdom, the European Union, New Zealand, Canada and Spain. The update also refers to the Rocky Hill decision. It refers to legal action aimed to prevent developments causing emissions contributing to climate change as a further category of litigation.

19. Note that entities may still report against the third edition of the document until their first full reporting period commencing on, or after, 1 January 2020.

20. See Principles and Recommendations Footnote 63.

21. Principles and Recommendations, Glossary, definition of 'environmental risks' p 35.

22. [Climate change and directors' duties](#), Noel Hutley SC and Sebastian Hartford-Davis, 7 October 2016.

23. [Climate Change and Directors' Duties, Supplementary Memorandum of Opinion](#), Noel Hutley SC and Sebastian- Hartford Davis, 26 March 2019, p 2.

24. Op cit, p 2.

25. [Directors' duties and climate change: Keeping pace with environmental challenges](#), Lord Justice Sale, Speech to the Anglo-Australasian Law Society, Sydney, 27 August 2019.

26. See [Climate change litigation update](#), Norton Rose Fulbright, March 2019.



As investors assess how well companies are positioned in the face of climate change, they are increasingly paying attention to the climate governance systems of the companies in question as a predictor of performance. A company that puts smart governance systems in place to proactively identify, assess and manage climate risks is likely to prove resilient in the face of climate change risks.²⁷

Veena Ramani
Program Director
Capital Markets Systems, Ceres



Investors and climate change: Evolving attitudes

There is a spectrum of investor approaches to incorporating climate change risk in their investment decision-making. Some investors view climate change as an ethical issue — these investors routinely exclude entities with high fossil fuel exposure from their investment portfolios. Others are concerned about the materiality of climate change risk to their investment decision-making, while seeking to target green investments that positively impact the environment. Understanding where an entity's major investors sit on this spectrum and their preferences can be a crucial step towards providing meaningful climate change disclosures.

Over recent years, investors have expanded their focus from analysis of entities' corporate governance practices to incorporation of financially material ESG factors more broadly in their investment decision-making process. Climate change falls clearly into this classification. Climate risk in investment portfolios is the climate-related financial risks of entities held in those portfolios. This explains investors' push for greater disclosure by listed entities. The direct links between climate change risk and systemic financial risk have become more apparent and increasingly established in recent years at the same time as the release of the TCFD and allied regulatory developments.

Many investors see climate change as a systemic risk, which cannot be diversified away. Given the exponential increase in funds under management globally, the cost of inaction would compromise long-term portfolio returns. Investors are increasingly embracing a 'universal owner' mindset and applying their scale, size and influence to act on climate change.²⁸

Investor developments

- The Financial Services Council and the Australian Council of Superannuation Investors (ACSI) issued updated guidance for entities on ESG reporting in 2016.²⁹ Directed at companies and designed to complement other guidance, the guide is intended to meet the needs of investment managers and asset owners for information to identify and manage exposure to ESG investment risks. Climate change is specifically included in the guide under the environment heading.
- In late 2018, the UNPRI issued guidance for asset owners on implementing the TCFD Recommendations³⁰ In February 2019 the UNPRI announced the strategy and governance indicators of its climate risk indicators are to become mandatory to report on for its signatories from 2020.
- In their annual open letters to companies, major global index investors Vanguard Investments and Blackrock have both emphasised their focus on long-term value creation, and in Vanguard's case, the importance of risk disclosures, including climate risk.
- Founded in 2017, Climate Action 100+ is an investor initiative to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change. The companies include 100 'systemically important entities', accounting for two-thirds of annual global industrial emissions. Group members engage with entities on climate change disclosure risk in line with the TCFD recommendations and reduction of greenhouse gases in the value chain of investee entities.
- ACSI released its revised ACSI Governance Guidelines in late 2019. The guidelines recommend the use of the TCFD Recommendations and articulate an expectation that entities materially exposed to climate change risk will use the TCFD recommended disclosures.³¹



The evidence on climate risk is compelling investors to reassess core assumptions about modern finance.

Laurence D Fink
Chief Executive
BlackRock



27. Quoted in *How to Set Up Effective Climate Governance on Corporate Boards Guiding principles and questions*, World Economic Forum in collaboration with PwC, January 2019 at p 21.

28. A 'universal owner' is a large asset owner who because of its size owns a slice of the whole economy and market through its portfolios. See the PRI '[Macro risks: universal ownership](#)' October 2017 PRI.

29. *ESG Reporting Guide for Australian Companies*, Financial Services Council and Australian Council of Superannuation Investors, March 2016.

30. [Implementing the Task Force on Climate-related Financial Disclosures: A Guide for Asset Owners](#), October 2018, UNEP Finance and the UN Global Compact.

31. [ACSI Governance Guidelines](#), October 2019 at p 28.

Community and activist interest in climate change

The number of resolutions on climate change issues proposed to entities' annual meetings has increased in Australia and overseas. The high profile 'Aiming for A' shareholder resolutions seeking greater climate change disclosure concerning Royal Dutch Shell plc and BP plc received overwhelming support in 2015.³²

In 2017 and 2018, the majority of US shareholder resolutions filed focused on environmental or social issues. Climate change-related proposals reached a record number of 90 proposals, and median support levels have increased significantly in the US in the past eight years.³³

There have been some widely publicised Australian shareholder campaigns on climate issues concerning ASX 200 companies.³⁴ In 2018 there were 17 shareholder resolutions submitted to shareholder meetings, of which 14 related to disclosure of climate risk, emissions or targets. For Australian entities, these resolutions are proposed based on a constitutional amendment, followed by a resolution seeking the relevant information. Frequently coordinated by non-government organisations such as Market Forces or the Australasian Centre for Corporate Responsibility, some of these resolutions received significant support.^{35 36} As at the end of 2019, there were 9 climate-related resolutions.³⁷

In early 2019, the NSW Land and Environment Court refused development for the Rocky Hill open-cut coalmine project.³⁸ The relevant government department referred the matter to an environmental assessment committee after receipt of 2,308 objections to the proposal. The committee refused the application, and the mine owner commenced proceedings. A local community action group was joined to the proceedings and sought to bring additional arguments centred on the climate change impacts of the project. One of the judge's reasons for ultimately refusing the development consent was that construction and operation of the mine and combustion of coal from the mine would result in greenhouse gas emissions and contribute to climate change.

International and Australian environmental and activist groups have noted the decision with interest, because of its potential impact on investors and financiers of fossil-fuel dependent industries. Engagement with entities on the absence of credible processes for forward-looking stress testing and disclosure of its results has become a common topic for shareholder engagement, proxy voting directions and resolutions.³⁹

Climate change disclosure

In addition to the TCFD, there are several global frameworks under which Australian listed entities can disclose environmental issues such as climate change including the:

1. [GRI 102: General Disclosures](#)
2. [The CDP](#)⁴⁰
3. [CDSB Climate Change Reporting Framework](#)
4. [IIRC Framework](#), and
5. [CDSB Framework for Reporting Environmental Information & Natural Capital](#).

“ In 2018 there were 17 shareholder resolutions submitted to shareholder meetings, of which 14 related to disclosure of climate risk, emissions or targets. ”

TCFD Recommendations

For the reasons referred to above the TCFD Recommendations are rapidly emerging as the main framework for climate change disclosure. The work of the TCFD grew out of the concerns of the global investment community, and many businesses have been responding: exploring their risk profile using scenarios described by the TCFD and setting emissions reduction targets using the science-based target methodology to align their business with the Paris Agreement objectives, and establishing processes for disclosing climate-related risks. Recommendation 7.4 contains further encouragement to Australian-listed companies to consider the TCFD Recommendations for disclosure.

32. The Aiming for 'A' investor coalition is an institutional co-filing group for shareholder resolutions.

33. See [Climate Change and Proxy Voting in the US and Europe](#), Maximilian Horster and Kosmas Papadopoulos, 7 January 2019, Harvard Law School Forum on Corporate Governance and Financial Regulation. By contrast, they note in Europe, voting is not a significant avenue for shareholder engagement on climate issues, possibly because it is harder to file these resolutions in most European markets.

34. See [Shareholder resolutions in Australia Is there a better way?](#), Dr Kym Sheehan, October 2017, for the Australian Council of Superannuation Investors and [Shareholder resolutions: Is there a case for change?](#), Governance Institute of Australia, 2018.

35. Market Forces is a climate-change activist organisation, affiliated with Friends of the Earth and the Australian Centre for Corporate Responsibility is a not-for-profit association promoting responsible business and ethical investment, particularly through shareholder advocacy.

36. See [Lighthouse](#), January 2019, Morrow Sodali p 13.

37. [Michael Chandler, '2019 Australian annual general meeting season review'. Governance Directions, Vol 72, No 1, Feb 2020.](#)

38. [Gloucester Resources Limited v Minister for Planning \[2019\] NSWLEC 7.](#)

39. [Heightened expectations of climate-related disclosure and assurance](#), Sarah Barker and Ellie Mulholland, 15 May 2019, [Minter Ellison Technical Update](#).

40. Some entities disclose under both the CDP and the TCFD and reference their disclosures under the CDP when making disclosure under the TCFD. The questions in new iterations of the CDP framework are now more explicitly linked to the TCFD.

TCFD framework

Established in 2016 by the Financial Stability Board at the request of the G20, the TCFD's mission is to develop voluntary, consistent climate-related financial risk disclosures for use by entities in providing information to investors, lenders, insurers, and other stakeholders. It considers the physical, liability and transition risks associated with climate change and what constitutes effective financial disclosures across industries. Its work and recommendations are intended to help entities understand what financial markets want from disclosure in order to measure and respond to climate change risks and to encourage them to align their disclosures with investors' needs.

Following extensive international consultation, the Task Force released the *Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures* in June 2017. The final report was accompanied by an annex about implementing the TCFD Recommendations (this is a 'living' document, intended to be refined as entities gain more experience preparing climate-related financial disclosures) and a Technical Supplement covering the use of scenario analysis in disclosures.

Investors' response to the TCFD Recommendations

Many investors see the TCFD Recommendations as a critical initiative that provides all financial market participants with a holistic framework and a common language to assess and communicate risks and opportunities from climate change. They consider improved disclosures on climate change risks by entities will help them evaluate their portfolios at an aggregate level, thereby improving the resilience and stability of financial markets as a whole. Investors are also increasingly seeking investment opportunities resulting from a transition to a lower-carbon economy, and consider improved disclosure from entities will help them capitalise on these opportunities.

Investors in Australia and overseas have been very supportive of the TCFD Recommendations. They see climate change risk as a potentially material financial risk that can impact the stability of their portfolios over the long term. In an environment where it is likely that returns will be lower over the longer term, most investors have had to rethink their strategies for improving their performance.⁴¹ Many large asset owners are embracing the concept of universal ownership with more in-house investing. Many of these investors also talk about the importance of taking a long-term approach both to their investments and to the approach of entities.⁴² The growing awareness of climate change among funds' members has also been a driver of some investors' stance on climate change. Funds are increasingly responding to members' concerns around climate change risk by collaborating with other market participants.⁴³



41. Often known as a strategy for seeking 'alpha'. See Investment Glossary, [Morningstar](#).

42. See for example, Larry Fink, [A Fundamental Reshaping of Finance](#), 2020.

43. See Note 28 above.

Chapter 3

Disclosure in accordance with the TCFD Recommendations

This chapter provides guidance about the TCFD Recommendations, which are emerging as the leading disclosure framework.

The TCFD Recommendations (illustrated below) cover four elements:

1. Governance
2. Strategy
3. Risk management
4. Metrics and targets.

The recommendations apply across all sectors and jurisdictions, and are suitable for both preparers and users of financial information, including asset owners and managers. The intention is also that asset managers' and owners' beneficiaries receive this information.

Disclosures relating to strategy and metrics and targets are subject to an assessment of materiality. To ensure as much compatibility as possible with national disclosure requirements for financial filings, the task force believes companies should determine materiality for climate-related issues in line with how they determine the materiality of other information included in their financial filings.

For Australian entities, as set out in the AASB/AUASB joint [Practice Statement](#), qualitative external factors, such as the industry in which an entity operates, and investor expectations may make risks such as climate change 'material' and warrant disclosures when preparing financial statements, which are subject to audit, regardless of their numerical impact.

The task force recommends preparers of climate-related financial disclosures make these disclosures in their annual public financial filings, noting that in most G20 jurisdictions, companies with public debt or equity have a legal obligation to disclose material information in their financial filings — including material climate-related information. The task force considers the governance processes for these disclosures would be similar to those used for existing financial disclosures and would likely involve review by the chief financial officer and/or the audit committee.

Figure 1: Core elements of recommended climate-related financial disclosures



Governance

The organisations's governance around climate related risks and opportunities

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

Risk management

The processes used by the organisation to identify, assess and manage climate related risks.

Metrics and targets

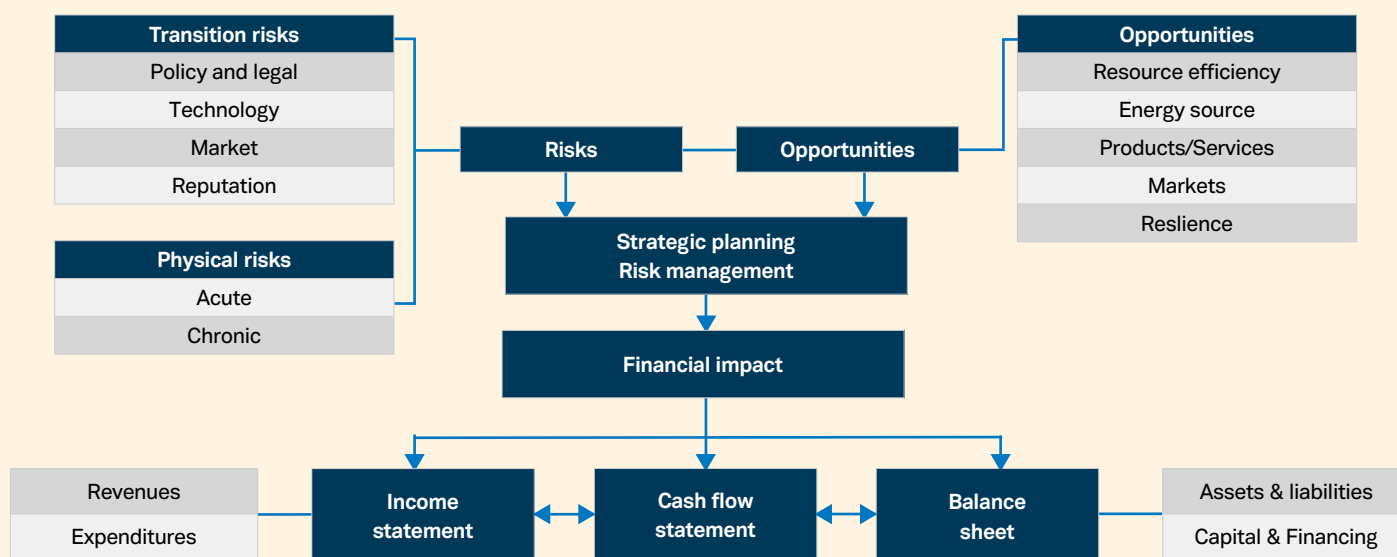
The metrics and targets used to assess and manage relevant climate-related risks and opportunities

Source: [Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures, p.V.](#)

Risks and opportunities

The TCFD Recommendations have a strong focus on both the risks and the opportunities of climate change and their financial impact.

Figure 2: Climate-related risks, opportunities and financial impact



Source: *Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures*, p 8.

Risks: Transition risks and physical risks

Transition risks — the risks relating to the transition to a lower-carbon economy, including:

- **Policy and legal risk** — policy actions that either attempt to constrain actions that contribute to the adverse effects of climate change or policy actions promoting adaptation to climate change, including litigation or legal risk.
- **Technology risk** — improvements or innovations supporting the transition to a low-carbon economy can significantly affect entities. Some entities will profit, and some will not, from new technology displacing systems and disrupting parts of the existing economic system. The timing of technology development and deployment is a critical uncertainty in assessing economic risks.
- **Market risk** — the effects on markets are varied, but there are likely shifts in supply and demand for some commodities.
- **Reputational risk** — the impact on an organisation's reputation from community or customer perception of their contribution to, or detraction from transitioning to a lower-carbon economy.

Physical risks — event driven (acute), including increased severity of extreme weather events, or longer-term shifts (chronic) in climate patterns, such as increased temperatures, causing rising sea levels or chronic heat waves. These risks may have financial implications such as direct damage to assets from an extreme weather event or indirect, such as disruption to the supply chain, including the reliability of the power supply.

Opportunities

Mitigating and adapting to climate change also produces opportunities for entities, such as resource efficiency, developing new products and services. The opportunities available will depend on the region, market and the industry in which an entity operates. They include:

- **Resource efficiency** — using resources such as energy and water more efficiently, reducing waste to not only reduce direct costs in the medium to longer term but also to contribute to global efforts to curb emissions. Increasingly technological innovation assists with this innovation.
- **Energy source** — to meet global reduction goals, many countries are transitioning their energy generation to low emission alternatives. This is also a potential source of cost saving.
- **Products and services** — entities that innovate and develop new low-emission products and services are likely to improve their competitive advantage in the face of shifting consumer and producer preferences.
- **Markets** — entities that proactively seek opportunities in new markets and types of assets may be able to diversify their activities and so better position themselves for the transition to a lower-carbon economy. This could include accessing new markets through collaborations in developing countries or through underwriting or financing green bonds or infrastructure.
- **Resilience** — there are opportunities to build capacity and improve contingency planning in at-risk communities or specific sectors, for example, cultivar adaptation or efficient water management in the agricultural sector.

Financial impacts of climate-related issues

These are driven by the specific climate-related risks and opportunities to which an entity is exposed and its strategic and risk management decisions on managing those risks, for example, mitigate, transfer, accept, or control, or pursuing those opportunities. The *Final Report Recommendations of the Task Force on Climate-related Financial Disclosures* identifies four major categories through which climate-related risks and opportunities may affect an entity's current and future financial positions — revenues, expenditures, assets and liabilities and capital and financing — see Figure 2.

The task force acknowledges that the financial impacts of climate-related issues on entities are not always clear or direct. It can be challenging for many entities to identify the issues, assess potential impacts and ensure material issues are reflected in financial filings. The final report includes tables of examples of climate-related risks and opportunities and their potential financial implications.⁴⁴

The task force encourages both historical and forward-looking analyses when considering the potential financial impacts of climate change, with a greater focus on future-focused analyses as the efforts to mitigate and adapt to climate change are without historical precedent. The emphasis on forward-looking analysis is a reason for incorporating scenario analysis into strategic planning and risk management practices.

Reporting hierarchy and disclosure principles

The tables in Appendix 1 set out the reporting hierarchy under the TCFD Recommendations and descriptions of the recommended disclosures. The task force has also identified seven principles for effective disclosure. See Appendix 2.

The disclosure principles are designed to be mostly consistent with internationally accepted frameworks for financial reporting. They are also intended to assist entities in making the linkages and connections between climate-related issues and their governance, strategy, risk management, metrics and targets clear.

The TCFD Recommendations are intended to allow entities that already disclose information about climate-related issues under other voluntary or mandatory reporting frameworks, to use their existing processes to make disclosures based on the TCFD Recommendations and to align disclosures against other global frameworks and disclosure tools.

Findings TCFD 2019 Status Report

The task force strongly encourages more companies to use its recommendations as a framework for reporting on climate-related risks and opportunities, especially companies with material climate-related risks. Companies in the early stages of evaluating the impact of climate change on their businesses and strategies and those that have determined climate-related issues are not material are encouraged to disclose information on their governance and risk management practices.

The TCFD referred to the fact that according to the IPCC Report based on current policies and commitments, global emissions are not estimated to peak by 2030, meaning governments and private sector entities are considering a range of options for reducing global emissions which could result in near-term disruptive changes across economic sectors and regions, and the fact that four out of five categories of risk have increased since 2014 based on multiple lines of evidence.

- Disclosure of the climate-related information has increased since 2016 but remains insufficient for investors — given the speed at which the TCFD considers change is needed, more entities need to consider the potential impact of climate change.
- More clarity about the potential financial impact of climate-related issues on entities' businesses is needed — this the major area identified as needing improvement by users of climate-related financial disclosures.
- Where entities are using scenarios, the majority (three out of five) do not disclose information about the resilience of their strategies.
- 'Mainstreaming' climate-related issues requires the involvement of multiple functions within an entity — while sustainability and corporate responsibility teams are often the primary drivers of TCFD implementation, risk management, finance and executive management are increasingly involved.

The task force has identified the following areas for further work:

- clarifying elements of the supplemental guidance in the 2017 Annex
- developing process guidance about how to introduce and conduct climate-related scenario analysis
- identifying business-relevant and accessible climate-related scenarios.

[2019 Status Report](#), TCFD, June 2019

44. See Final Report, pp 10–11. Section A4 in the Annex provides additional information on the major categories of financial impacts — revenues, expenditures, assets and liabilities, and capital and financing — most likely to be relevant for specific industries.

Scenario analysis

Scenario analysis is a tool for entities to consider, in a structured way, potential scenarios that are different from business-as-usual and to evaluate how their strategies might perform under those circumstances. The recommended disclosure under Strategy and the related guidance asks organisations to describe the resilience of their strategies, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.⁴⁵

Scenarios allow investors and entities to assess how they will be affected under a range of possible future developments, helping them to assess climate risk and its impact.

The task force considers:

1. disclosure of forward-looking assessments of climate-related issues is vital for investors and other stakeholders to understand the vulnerability of entities to transition and physical risks, and how they would deal with these vulnerabilities
2. scenario analysis should be used to assess the potential business, strategic, and financial implications of climate-related risks and opportunities and disclosed appropriately in annual financial disclosures, and
3. all entities exposed to climate-related risks should consider using scenario analysis to help inform their strategic and financial planning processes and disclose how resilient their strategies are to a range of plausible climate-related scenarios.

The task force acknowledges that scenario analysis is one of the most challenging features of the TCFD Recommendations for many entities.

A technical supplement, [The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities](#)⁴⁶ Provides further information on the types of climate-related scenarios, the application of scenario analysis, and the critical challenges in implementing scenario analysis. The choice of approach will depend on an entity's needs, resources, and capabilities.

Scenario analysis can be:

- **Qualitative** — relying on descriptive or written narratives, exploring relationships and trends for which little or no numerical data is available.
- **Quantitative** — relying on numerical data and models, used to assess measurable trends and relationships using models and other analytical techniques.
- **A combination of both.**

The task force considers entities with more significant exposure to transition risk and/or physical risk should undertake more rigorous qualitative and, if relevant, quantitative scenario analysis for key drivers and trends that affect their operations. Where entities have greater significant exposure to climate-related issues, they should consider disclosing the key assumptions and pathways related to the scenarios they use, particularly the critical parameters and assumptions that materially affect the conclusions drawn.⁴⁷ For these entities, greater rigour and sophistication in the use of data and quantitative models and analysis would be warranted.

For entities in the initial stages of implementing scenario analysis or with limited exposure to climate-related issues, the task force recommends disclosing how resilient, qualitatively or directionally, the entity's strategy and financial plans may be to a range of relevant climate change scenarios. It anticipates that entities that are beginning to use scenario analysis, a qualitative approach that progresses and deepens over time may be appropriate.

Entities can use existing external scenarios and models such as those developed by third parties (eg, those provided by third-party vendors) or build their own, in-house modelling capabilities. For example, to address concerns about proportionality, the task force has established a threshold of US \$1 billion for organisations in the four non-financial groups that should perform more robust scenario analysis and disclose additional information on the resiliency of their strategies. Entities are encouraged to develop the necessary internal skills and capabilities to assess climate-related risks and opportunities, with the expectation they will evolve and deepen their use of scenario analysis over time.



45. A 2°C scenario is a common reference point that is generally aligned with the objectives of the Paris Agreement and supports investors' evaluation of the potential magnitude and timing of transition-related implications for individual companies. Noting that the IPCC October 2019 Report explored the impacts of limiting global warming to 1.5°.

46. The Technical Supplement provides further information on the types of climate-related scenarios, the application of scenario analysis, and the critical challenges in implementing scenario analysis. The choice of approach will depend on an entity's needs, resources, and capabilities.

47. For example, entities with significant climate-related exposures should strive to disclose the elements described in Figure 8 of the final report. Op cit, p 63 ff.

Reported challenges of scenario analysis

The 2019 Status Report referred to the following challenges with using climate-related scenario analysis:

1. The lack of appropriately granular, business-relevant data and tools supporting scenario analysis.
2. Difficulty determining scenarios, particularly business-oriented scenarios, and connecting climate-related scenarios to business requirements.
3. Difficulties quantifying climate-related risks and opportunities in business operations and finances.
4. Challenges around how to characterise resiliency.⁴⁸

TCFD Resources to assist with scenario analysis include:

1. **Knowledge, Tools and Resources** — TCFD Knowledge Hub contains a wide variety of resources relating to the framework and its implementation, including a Scenario Analysis Summary Page. The World Business Council for Sustainable Development has convened preparers' forums for a range of sectors and industries (oil and gas, electric utilities, chemicals, construction, automobiles, food, agriculture, and forest products). The UN Environment Programme Finance Initiative (UNEPFI) has worked with 16 major banks to pilot the TCFD Framework and develop a scenario-based approach for assessing the impact of climate change on banks' lending portfolios.
2. **Business relevant scenarios** — there are several existing publicly available climate-related scenarios, including those developed by the International Energy Agency and the IPCC. The 2019 Status Report notes that these are primarily intended for global research and policy purposes, and it may be challenging for entities to use the global-scale output of these models in their scenario analysis. The task force notes that more work is needed on developing business-oriented scenarios.⁴⁹



48. Op cit, p 66 ff.

49. Op cit, p 66.

Chapter 4

Getting started

This chapter contains the existing Australian requirements and ideas for the first steps entities can take for getting started on TCFD reporting.

Australian requirements

ASX/CGC Corporate Governance Council Corporate Governance Principles and Recommendations

The disclosure required by Recommendation 7.4 is whether an entity has any material exposure to environmental or social risks and, if it does, how it manages or intends to manage those risks. The Principles and Recommendations indicate that disclosure under this Recommendation can be made by cross-referring to an integrated report using the IIRC Framework, or a sustainability report in accordance with the GRI, the SASB sustainability standards or the CDSB Framework.⁵⁰

The commentary to Recommendation 7.4 notes that entities that do not consider they have any material exposure to environmental risks should carefully consider the basis for the belief and benchmark against their peers. The commentary also reminds listed entities that the transition risks and the physical risks associated with climate change are not restricted to mining and fossil fuel-intensive entities. Entities are also encouraged to consider whether they have material exposure to climate change risk by reference to the TCFD Recommendations and, if they do, to make the recommended disclosures.



The most important thing to remember when reporting is that the report is a by-product of the effective governance and management of the risk inside the organisation. The report should not be the be-all and end-all. It should be an output of that effective risk management and governance framework.

'Interview — Tim Nelson:
Climate change risks is Governance 101',
Governance Directions, Vol 71, Number 5.



AASB/AUSAB joint guidance

The AASB's and the AUASB's joint guidance on the consideration of materiality and disclosure of climate-related risk in financial standards refers to investors' comments on the importance of climate-related risks to their investment decisions and observes that climate-related risks and other emerging risks are currently discussed outside the financial statements.⁵¹ However, qualitative external factors, such as the industry in which an entity operates, and investors' expectations may make such risks material and warrant disclosures when preparing financial statements, regardless of their numerical impact.

The AASB and AUASB refer to the importance to investor decision-making of climate-related risks. In their materiality definition and [AASB Practice Standard 2 Making Materiality Judgements](#) (APS 2) entities can no longer treat climate-related risks as merely a matter of corporate social responsibility and should consider them also in the context of their financial statements.

The accounting and auditing bodies expect that directors, preparers and auditors will be considering APS 2 when preparing and auditing financial statements for their next half and full-year ends. They note that even though the guidance is not mandatory, it represents the IASB's best practice interpretation of materiality. Importantly the guidance moves the consideration of climate risk assumptions from the narrative report, generally outside the financial audit engagement, to within the scope of the external audit scrutiny.



50. As noted in the ACSI Report [ESG Reporting by the ASX 200](#) the trend, particularly for larger Australian companies to adopt international frameworks such as Integrated Reporting <IR>, the TCFD or the GRI.

51. [Climate-related and other emerging risks disclosures: assessing financial statement materiality using AASB Practice Statement 2](#), AASB and AUASB Joint Guidance, 13 December 2018, re-released in April 2019.

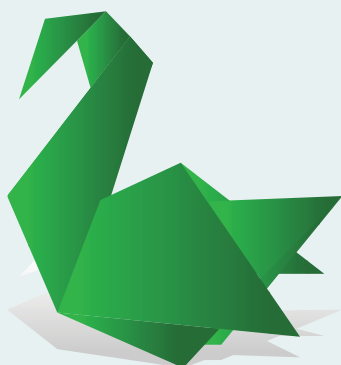
APRA

When releasing the results of its first climate risk survey of banks, insurers and superannuation trustees APRA commented that while the 'time horizon for the risks can be uncertain, this does not justify inaction'.⁵² APRA also advised it will embed the assessment of climate risk into its ongoing supervisory activities. It will also increase the intensity of its supervisory activities to assess the effectiveness of risk identification, measurement and mitigation by regulated entities.

ASIC

ASIC's policy set out in [Regulatory Guide 247 Effective disclosure in an operating and financial review](#) (Regulatory Guide 247) is that the law requires listed entities to include in their operating and financial review (OFR) a discussion of environmental and other sustainability risks (including climate risks) where they could affect the achievement of financial performance or the outcomes disclosed. In its [Report 593 Climate risk disclosure by Australia's listed companies](#), it recommended that listed company directors and officers adopt a probative and proactive approach to climate risk as an emerging risk, noting that strong and effective corporate governance helps in identifying, assessing and managing material risks and that specific disclosure is more useful than general disclosure. It also reminded listed entities that s 299(1)(c) of the Corporations Act, requires disclosure of material business risks affecting future prospects in an OFR which may include climate risk.

ASIC has published [updates](#) to clarify the application of existing regulatory guidance Regulatory Guide 247 and [Regulatory Guide 228](#) (prospectuses) to the disclosure of climate change-related risks and opportunities.⁵³ The revised guidance: incorporates the types of climate change risk developed by the TCFD into examples of common risks that may need to be disclosed in a prospectus and highlights climate change as a systemic risk potentially impacting an entity's financial prospects for future years requiring disclosure in an OFR. It also reinforces that disclosures made outside the OFR (such as under the voluntary TCFD framework or in a sustainability report) should be consistent with disclosures made in the OFR.



'Green swan risks: potentially extremely financially disruptive events that could be behind the next systemic financial crisis'.
[Bank for International Settlements](#).

Implementing the guidelines

In May 2019, the CDSB and SASB released the [TCFD Implementation Guide](#).⁵⁴ The guide includes the following steps for getting started on TCFD reporting as well as sample disclosures:

Governance Institute suggests the following activities based on each step.

- 1. Secure the support of your board of directors and executive leadership team.**
 - This may involve briefing the board and executive team around climate-related risk, the TCFD and the potential risks to the business.
 - Some boards have undergone training on climate change and climate risks to help them understand the issues and potential areas of interest and questions from investors.
 - Engage with the Audit, Risk or Sustainability Committee to assist in promoting board support.
 - Consider presentations and/or deep dives on particular areas of climate-related risk as part of executive and board ongoing strategic discussions
- 2. Integrate climate change into key governance processes, enhancing board-level oversight through audit and risk committees.**
 - One way of integrating climate change into an entity's governance processes could involve conducting a gap analysis using a framework such as TCFD.
 - Identify the board and management level committees and executives with specific responsibilities and clearly identify and document those responsibilities, information flows, and how overlapping responsibilities and accountabilities are to be managed.
 - Include regular reporting in board and committee calendars.
 - Ensure integration into internal assurance processes and scheduling
- 3. Bring together sustainability, governance, finance, and compliance to agree on roles.**
 - Consider identification of key role/s in each area as climate change/sustainability sponsor with accountability for cross-functional liaison.
 - Consider establishing a management level climate change/sustainability committee.
 - Consider impact on management reporting.
- 4. Look specifically at the financial impacts of climate risk and how it relates to revenues, expenditures, assets, liabilities, and financial impact.**
 - Map physical risks and transitional risks.

52. [Climate Change: Awareness to action](#), APRA Information Paper, 20 March 2019, p 25.

53. The revised guidance was in response to the recommendations of the Senate Economics References Committee report on carbon risk and the Government's response to the report, which encouraged ASIC to consider whether its high-level guidance on disclosure remained appropriate. See [Carbon risk: A burning issue](#), Report of the Senate Economics References Committee, 21 April 2017.

54. [TCFD Implementation Guide](#), Climate Disclosure Standards Board and the Sustainability Accounting Standards Board, May 2019 pp 8–10.

5. **Assess your business against at least two scenarios.**
 - This could be carried out by using the principles and guidance on scenario planning in the TCFD guidance.
 - This will include, at a minimum, a 2°C or lower scenario and further considering using an additional two or three scenarios that are most relevant to the entity's circumstances.
6. **Adapt existing enterprise-level and other risk management processes to take account of climate risk.**
 - This would involve adapting the entity's existing risk management processes and would also include integrating climate related transition and physical risks
7. **Solicit feedback from engaged investors about what information they need to know about climate-related risks and opportunities.**
 - Review key investors' and investor representative bodies, public statements and publications about climate-related risk.
 - Engage in discussions with key investors' and investor representative bodies to understand their drivers and expectations.
8. **Look at existing tools you may already use to help you collect and report climate-related financial information such as the [CDP Questionnaire](#) (aligned to the TCFD since 2018), the [CDSB Framework](#), and the [SASB Standards](#).**
 - Engage with the Sustainability team to understand the drivers for the entity.
 - In addition to reviewing existing tools and information look at disclosures by entities in similar industries.
9. **Plan to use the same quality assurance and compliance approaches for climate-related financial information as for finance, management, and governance disclosures.**
 - Consider adapting existing internal and external assurance processes to cover climate-related disclosures.
 - Pending adaptation of external assurance processes, take into account ASX Corporate Governance Council recommendation 4.3. 'A listed entity should disclose its process to verify the integrity of any periodic corporate report it releases to the market that is not audited or reviewed by an external auditor'.
10. **Prepare the information you report as if it were going to be assured, even if you decide not to do so right now.**
 - Consider the impact of adapting existing internal and external assurance processes on timelines and processes for production and assurance of reports
11. **Look at the existing structure of your annual report and think about how you can incorporate the recommendations into your discussion of risks, management's discussion and analysis, and the governance section.**
 - Note the TCFD guidance emphasis that the annual report should tell a clear and coherent story, and guide the report user, making the connections between governance, strategy, risk management, target-setting, and performance.

The CDSB/SASB Guide includes a series of sample disclosures, and SASB has developed an interactive [materiality map](#) of disclosure topics across industries.



Tackling climate change risks is basically governance 101. Get the right advice. Make sure you incorporate it into your strategic risk framework. Ensure you have the right decision-making matrices whereby strategy and Tier 1 risks are being considered by the board. Do your scenario analysis and communicate with your stakeholders in an effective manner...

'Interview — Tim Nelson: Climate change risks is Governance 101', **Governance Directions, Vol 71, Number 5.**



CDSB/SASB Guidance ‘takeaways’

- **Start at the beginning** — the guide recommends that an organisation start by defining its objectives — fulfilling the TCFD Recommendations and its 11 underlying recommended disclosures.
- **Keep it simple** — entities should not try to run before they can walk. Reporting is likely to benefit from a straightforward approach, addressing one recommended disclosure at a time, in order. More sophisticated reporting will become possible as the organisation’s approach matures.
- **Connectivity is key** — disclosures should be connected with other information in the mainstream report to explain the links between an organisation’s governance, strategy, risk management and environmental results.
- **Push for proportionality** — all entities should consider how their TCFD-aligned reporting compares to what they disclose on the other financially material risks and opportunities facing the organisation, given that the TCFD Recommendations are intended for inclusion in mainstream financial filings.
- **Take an iterative approach to scenario analysis** — establish a reasonable baseline for scenario analysis and make improvements over time. For example, entities might initially focus scenario analysis and/or related disclosures on a specific asset or aspect of their business before expanding to broader operations, and eventually to the whole business. Scenario analysis also provides organisations with a tool to help them identify strategic opportunities as well as risks in light of a changing climate.⁵⁵

UK Financial Reporting Lab

In October 2019, the UK Financial Reporting Lab (Lab) released its report [Climate-related corporate reporting: Where to next?](#)

This report includes a broad range of examples of current practice identified by the Lab Team and investors across a variety of industries. In each case, the commentary indicates what is helpful about the standard.

Tips for approaching climate considerations and disclosure

Many companies are considering how best to address climate-related issues. Throughout this project, the Lab has seen companies take a range of approaches, many of which appear to be working successfully. However, some of the key elements that appear to be helping companies

most effectively to address the issue are outlined below. A number of these are not climate-related, but may help companies to address challenges the company faces in a more coordinated way:

- Starts with appropriate governance and oversight. Senior management and board engagement are necessary to ensure a coordinated approach, that a strategic view is taken, and that resources are appropriately allocated.
- Climate-related issues impact many areas of a business. It is essential to be strategic to ensure that these areas all coordinate to make the best decisions and get the best outcomes. Different companies have taken different approaches to this, with some having a more decentralised structure, others using cross-firm working parties, and still others running a ‘nominated’ person approach with input from other areas. Any of these can work depending on the company, although most appear to need one point of contact/coordination, which can work most effectively by naming a responsible person.
- As so many operational areas of the business are coming together to discuss the topic, it is vital to ensure that they are talking about the same things.
- Other organisations have highlighted that asking ‘How do we respond to climate change?’ can be an overwhelming and alienating question. They have worked hard to ask company-specific and operations-specific questions, which they have found a more helpful approach.
- Some companies have also reassessed their risks within this context — trying to draw out whether, at a cross-organisation level, there is a different risk level to that which they may identify in either a top-down or bottom-up risk format. Understanding management reporting tools in this context can be important.
- There is also a challenge, however, in not narrowing down the possible risks too early. Companies suggested thinking as broadly as possible, including considering whether the risk management process itself is capturing the interconnected elements of the risks and opportunities.
- Many reported that the main help had been a desire and/or push just to get started. The topic is broad, but this approach allowed them to begin to understand what they knew and didn’t know, what more information was required, and to start to ask how that could be sourced. Some reported finding a roadmap of planned disclosure a helpful indication of where they aimed to be and what they were trying to achieve.

Source: *Climate-related corporate reporting Where to next?* p 6

55. Op cit, pp 56–57. . The 2017 Scenario analysis included an existing Australian climate policy (BAU) scenario, a scenario incorporating Australia’s Nationally Determined Contribution to the Paris Agreement (NDC) and a 2°C warming pathway scenario.

Chapter 5

Approaches to climate change reporting

This chapter provides practical guidance and examples from Australian-listed entities and others on climate change

QBE: Climate change governance

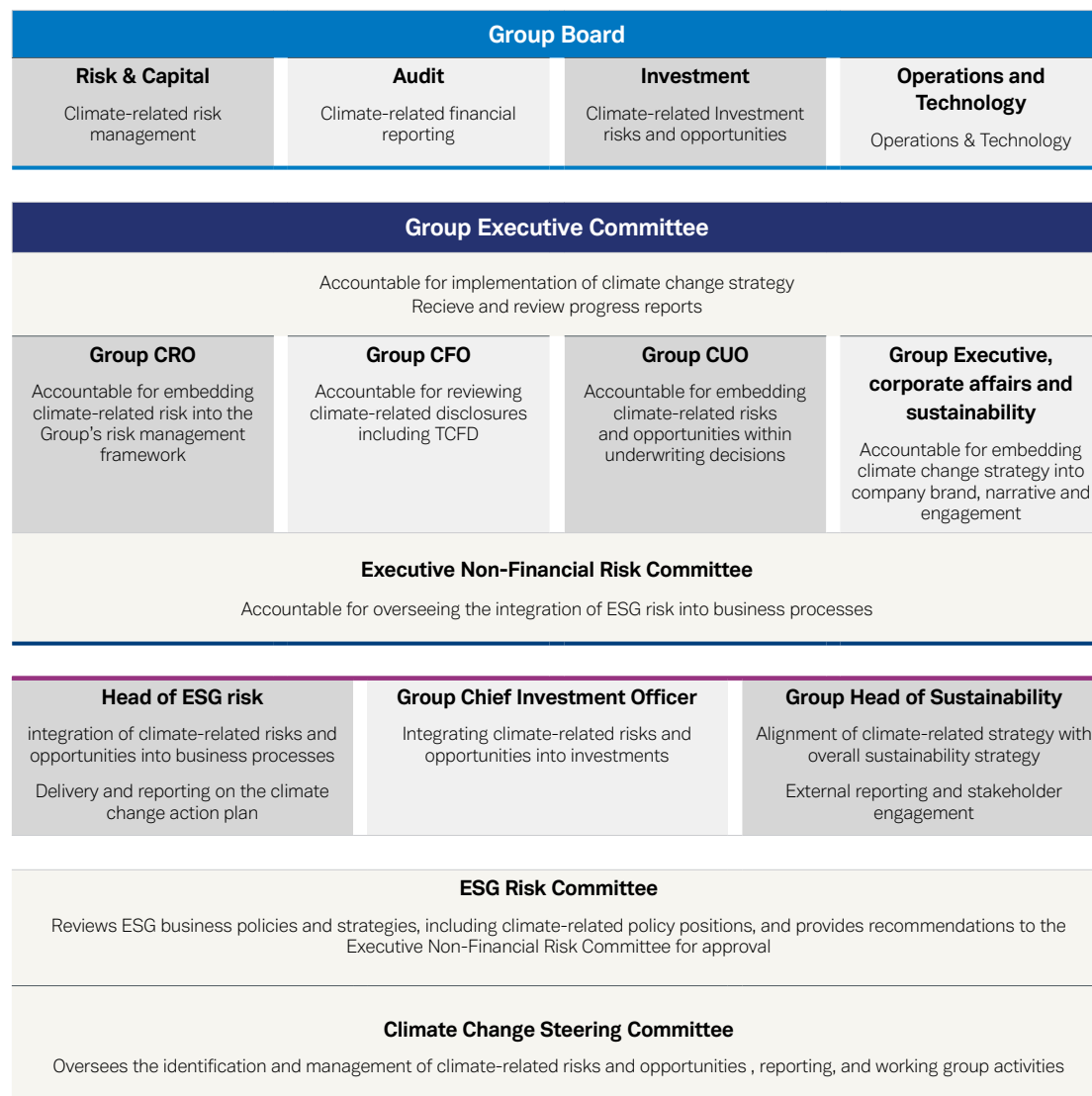
As an international insurer with products covering a diverse portfolio including property, crop, energy, marine and aviation, QBE is acutely aware of the risks presented by climate change. We understand that physical risks associated with the increasing frequency and intensity of extreme weather events will have direct financial and societal impacts and that our business also needs to be prepared for transition risks associated with potential changes in policy, laws, technology and markets. The transition to a low carbon economy also presents opportunities for our business, and we want to ensure that we're well-positioned to leverage these.

Establishing a robust governance structure is a core element

of the Recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD). Since signing the public Statement of Support for the TCFD Recommendations in early 2018, we have reviewed and strengthened our climate-related governance. To support us in this, we worked with an independent consultant to:

- review our existing governance frameworks
- develop a matrix outlining all the activities required to implement the TCFD Recommendations,
- determine who should be responsible, accountable, consulted or informed for climate-related activities and decisions.

Figure 3: QBE governance model



The group board is the highest-level body with responsibility for overseeing climate-related issues due to the long-term strategic importance of this topic for our business. Each of our group board sub-committees has specific climate-related responsibilities relevant to the activities overseen by that sub-committee, outlined in Figure 3.

Our group chief executive officer and the broader group executive committee (GEC) are accountable for implementing our climate change strategy. The GEC receives regular updates on our approach and performance concerning managing climate-related risks and opportunities and is responsible for overseeing the execution of decisions taken at the board level.

The GEC is supported by two senior cross-functional committees.

- ESG Risk Committee — Chaired by our group chief risk officer (CRO), this committee manages and oversees activities to identify and review ESG risks and develop appropriate policy and decision-making frameworks relating to underwriting, investment and/or operations.
- Climate Change Steering Committee (CCSC) — Co-chaired by our CRO and group financial controller, the CCSC consists of senior representatives from our underwriting, investments, finance, risk, legal, corporate affairs & sustainability and operations teams, as well as divisional representatives. The CCSC provides an integrated view of climate-related risks and opportunities and plays an important role in assessing the analysis undertaken by our climate-related physical, liability and transition risk working groups.

Our [Climate Change Action Plan report](#) outlines our progress in meeting our climate-related commitments and more information on QBE's approach to climate change can be found [here](#).

CSR Limited: From 2009 to 2030 — Managing and reporting on climate change risks

Identifying, managing and reporting on environmental and climate change risks has long been a critical component of CSR Limited's risk management and governance framework. It has always been CSR's goal to:

- approach the setting of targets on a long-term manageable basis, so the organisation is not overwhelmed by the targets, but rather invested in the approach and committed to the journey
- ensure comprehensive disclosure of the approach to investors and the broader community.

As a leading manufacturer of building products, CSR's businesses are high users of energy. Ensuring secure, reliable (and affordable) energy is essential for the over 40 manufacturing sites CSR operates across Australia and New Zealand. This is a significant climate change risk for CSR.

As part of mitigating the impacts of climate change from our operations, in 2009 CSR set four intensity targets being to deliver a 20 per cent reduction per tonne of saleable product in:

1. energy consumption
2. greenhouse gas emissions
3. solid waste to landfill
4. potable water usage

using 2009/10 as the base year. At the time, CSR was one of the first manufacturing companies in Australia to set specific environmental targets.

Over the next ten years, CSR has progressed its approach to climate risk and opportunities covering many of the critical recommendations of the TCFD framework. In 2015, CSR's climate change principles were approved by the CSR Board Workplace Health, Safety & Environment Committee. Internal risk processes were updated in 2017 to capture specific questions on climate risks together with a physical climate risk assessment for 37 of CSR's manufacturing sites. In 2018, CSR developed a staged approach to assess and disclose climate-related risks and opportunities using the TCFD framework. This includes the development of new sustainability targets to the year 2030, which will be published in CSR's Annual Report in May 2020.

As part of this staged approach, in 2019 CSR conducted a climate scenario analysis of Gyprock plasterboard, CSR's largest business by revenue. The scenario analysis focused on transition (market, policy and regulatory) risks, complementing earlier work undertaken on the physical (weather) risks impacting sites and supply chain risks.

The transition risks Gyprock faces are a product of the interaction between potential government intervention accelerating progress towards meeting Australia's Paris Target commitment, economic changes related to climate change and changes to Gyprock's emissions profile.

The analysis under the three scenarios confirmed that while there will not be a material impact on the business to 2030, there are several implications from this analysis which will be important for Gyprock's continued approach to assessing and managing climate risk:

- climate policy is the most significant driver of transition risk
- energy efficiency and renewable energy sourcing reduces projected liabilities
- risk will be impacted by its position relative to its peers.

Figure 4: The three modelled scenarios

Scenarios	Policy environment	Gyprock emissions profile	Alignment with physical risk analysis	Projected direct financial liability from transition climate risk in 2030
1.5°C High ambition	Economy-wide policy changes result in greater costs from emissions.	Emissions growth in response to increased demand is offset by efficiency gains and renewable electricity sourcing.	Baseline physical risk scenario (ie no additional physical risk from climate change).	Not material — business is resilient to 2030 based on carbon price of \$43/tCO ₂ e.
2°C Paris ambition	Incremental policy changes result in some additional costs from increased emissions.	Emissions increase in response to increased demand are offset by efficiency gains and reduction in emissions intensity of the electricity grid.	Medium impact physical risk scenario.	Not material — business is resilient to 2030 based on the carbon price of \$25/tCO ₂ e.
4°C Low ambition	No change in current policy settings.	Emissions increase in response to increased demand, with no mitigation through investment in energy efficiency or renewable electricity sourcing.	High impact physical risk scenario.	No additional financial liability as there are no changes to climate policy that are projected to impact Gyprock.

Origin Energy Limited: Supporting the transition to lower emissions

As a leading energy company, Origin Energy Limited (Origin) has long considered the impacts of climate change-related risks and opportunities on our business and portfolio. Origin undertook its first scenario analysis of a [2°C scenario](#) in 2017, and became a supporter of the TCFD in FY2018 and continues to implement its recommendations.

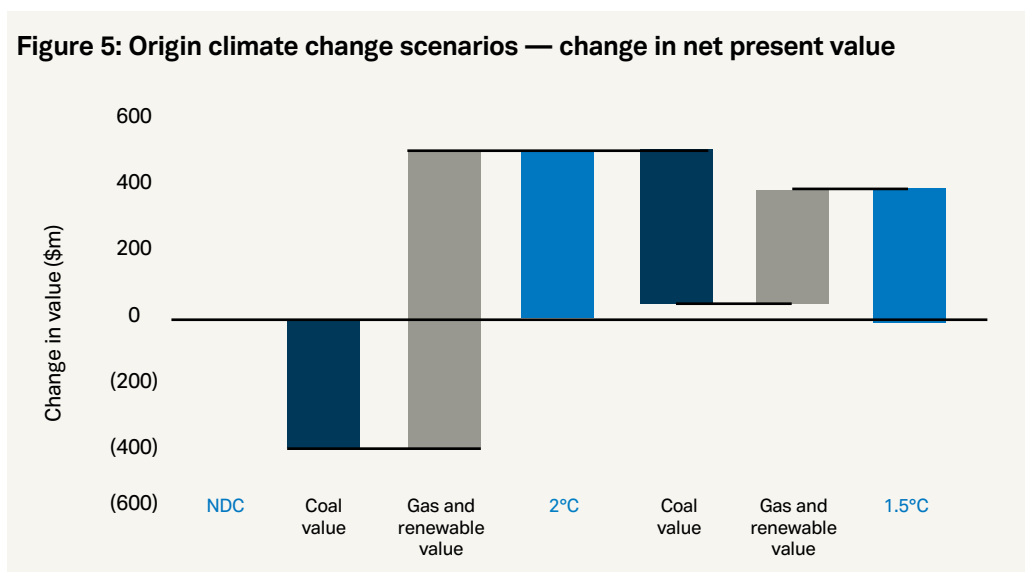
The 2017 scenario analysis demonstrated how Origin has structured its generation portfolio to support the transition to lower emissions and showed the resilience of its business in a low-carbon world,⁵⁶ allowing investors to assess the implications of climate change risk to Origin. In 2019, Origin updated its scenario analysis to consider the implications of a [1.5°C scenario](#) for Origin, as well as updated Nationally Determined Contribution to the Paris Agreement (NDC) and 2°C scenarios.⁵⁷

As well as demonstrating how Origin's unequivocal support for the Paris Agreement and position on climate change is integrated into its core strategy, both the 2017 and 2019 scenario analysis papers considered the potential impact of the emission reduction scenarios on the value of Origin's wholesale electricity generation portfolio, which accounted for approximately 90 per cent of Scope 1 and 2 emissions in FY2019.

The impact of the emissions reduction scenarios was modelled using third-party market software, PLEXOS. Generation dispatch and pricing outputs from PLEXOS were then fed into an in-house financial model to assess the valuation impact on Origin's wholesale electricity generation portfolio, focusing on the 2020 to 2040 initial transition period.

Origin disclosed the key assumptions it used in preparing its scenarios, including that all scenarios require the adoption of a carbon price to sustain the required emissions reduction trajectory.

Figure 5: Origin climate change scenarios — change in net present value



56. The 2017 Scenario analysis included an existing Australian climate policy (BAU) scenario, a scenario incorporating Australia's Nationally Determined Contribution to the Paris Agreement (NDC) and a 2°C warning pathway scenario.

57. The BAU scenario was excluded from the 2019 analysis as the influx of renewable generation capacity under the LRET, in conjunction with state-based renewable targets, energy-efficiency schemes and continued growth of behind-the-meter solar photovoltaic are projected to deliver electricity emissions in line with the NDC scenario. Origin notes that the electricity sector alone meeting its share of an NDC target is insufficient for Australia to meet its Paris commitments.

Origin's 2019 scenario analysis showed that the value of its generation portfolio is lower under a 1.5°C scenario compared to the 2°C scenario; however, it remains higher than under a low-action NDC scenario. While the value of Origin's single coal-fired power station, Eraring, declines under both the 2°C and 1.5°C scenarios, it retains a net positive value due to its role in the transitional period as it will provide secure and affordable baseload power in the short- to medium-term.

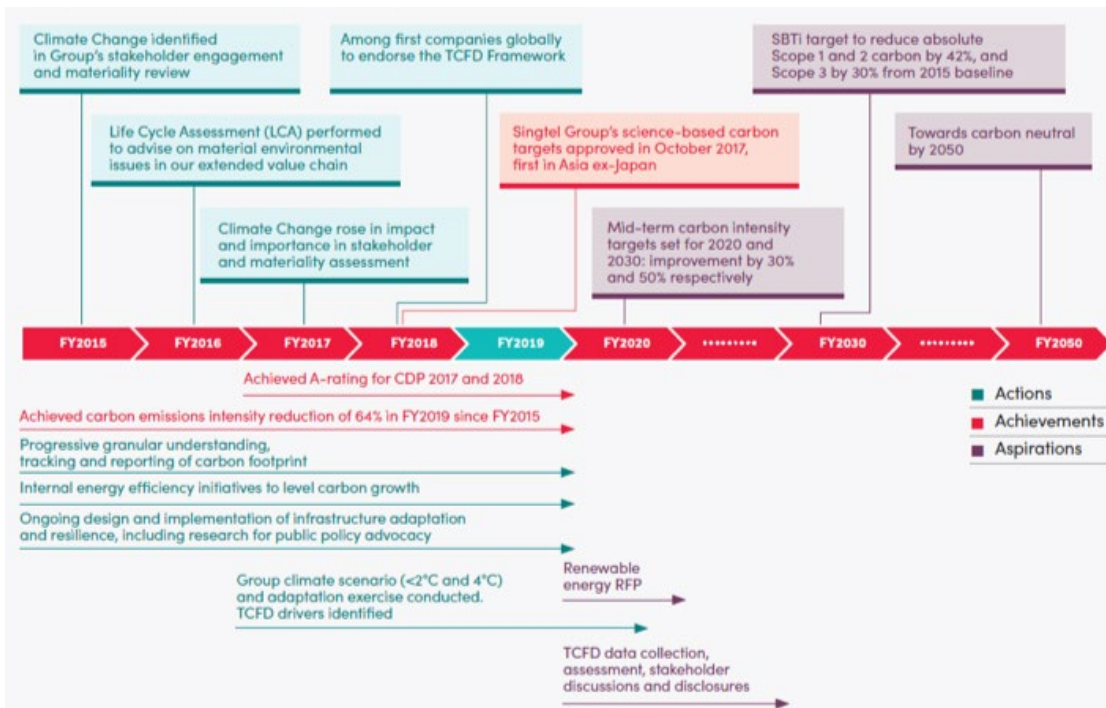
Origin's quantitative scenario analysis considered the impact on the value of its existing owned and committed contracted generation portfolio only and did not consider any future expansion of or change in the portfolio (eg, continued growth in renewables). The qualitative analysis included in Origin's resilience discussion further outlined opportunities for Origin to create value in the transition to a low-carbon future.

Climate change scenario analysis plays a significant role in Origin's assessment of the assets it should hold, invest in, dispose of and acquire. Origin uses scenario analysis, as well as other internal modelling, as an input into the evaluation of future investment and portfolio strategy decision-making

Singtel Optus Group: The 'top-down' and 'bottom-up' to TCFD — Identifying the financial indicators for a service base infrastructure

Telecommunications providers Singtel and Optus (Group) were early endorsers of the TCFD framework when it was first released in June 2017. The Group had taken a progressive approach over several years to understand and address its climate risk since it first appeared on the Group's sustainability materiality register in FY2015. This followed a comprehensive stakeholder engagement and materiality assessment exercise. Efforts included deepening the granularity of its carbon tracking and disclosures to CDP; undertaking an organisational life cycle environmental risk assessment; and a climate scenario and adaptation planning exercise in FY 2016. In October 2017, the Group became the first in Asia (ex-Japan) and Australasia to have its absolute carbon reduction targets approved by SBTi. Based on the recommendations of TCFD, the Group went on to formally establish the climate risk topic on the Group's Risk Management Committee and with the Group board.

Figure 6: Singtel group's climate action journey towards 2050



Taking a phased approach (See Figure 6) provided a practical way to align progressively with the TCFD guidelines and enabled the Group to bring its key internal stakeholders along with the journey

After the Group had established its governance, strategy and risk management framework related to climate risks, in FY 2018, engagement began with various parts of the business to identify critical indicators and business drivers which may have a direct or indirect financial impact from the transitions and long-term physical effects of climate change.

These indicators are summarised in Figure 7 organised by physical, transitional or liability risks that have an impact on the group's income and balance sheet performance in the long run.

Having identified the relevant indicators, at the time of this report, the Group is engaging its internal stakeholders to determine the financial and other data sources to build, test and refine the historical data allocated to the climate-related risks indicators. Baselining historical financial information is seen as critical before it begins overlaying forward-looking assumptions and modelling based on future climate scenarios, which it expects will be done with the help of a third-party adviser.

Recognising that its financial stakeholders and investors are also evolving their understanding on TCFD, the Group engages its major investors on various occasions to share their approach in order to build alignment and understanding on the Group's climate-related risks. Also, it has led multiple business roundtables with SGX (Singapore stock exchange, where the Group is listed), together with other listed companies to share its climate approach and evolving TCFD work.



At some stage, the financial analysts will be making their own assumptions and modelling of the company's climate-related financial risks. So, we believe it is better to proactively understand and model our risks and shape the conversations and guidance with our major investors.

Andrew Buay
Vice President

Singtel Group's Corporate Sustainability



Figure 7: Singtel indicative climate risk related financial indicators

	Income impact	Balance sheet impact
Physical risks Climate-related natural disasters affecting business performance and network resilience and community	<ul style="list-style-type: none"> Revenue impact Market share impact Insurance premiums Operational cost of disaster recovery Supply chain risks Customer revenue from ICT service diversity 	<ul style="list-style-type: none"> Asset impairment or write-down from damage Capital Investment for adaptation or resilience building Capitalised cost of disaster recovery
Transitional risks Towards a low carbon economy	<ul style="list-style-type: none"> Carbon tax Energy costs Carbon offsets Renewable energy purchase ICT solutions enabling carbon footprint reduction for consumers 	<ul style="list-style-type: none"> Investments in energy efficient technologies or upgrades (eg chillers and lighting) Renewable energy projects
Liability risks Contractual and legal obligations	<ul style="list-style-type: none"> Service Level Agreement with enterprise customers 	<ul style="list-style-type: none"> Provisions for contingent liabilities

BHP: An integrated approach from an early TCFD reporter

BHP's climate change strategy focuses on reducing operational greenhouse gas emissions, investing in low emissions technologies, promoting product stewardship, managing climate-related risk and opportunity, and working with others to enhance the global policy and market response.

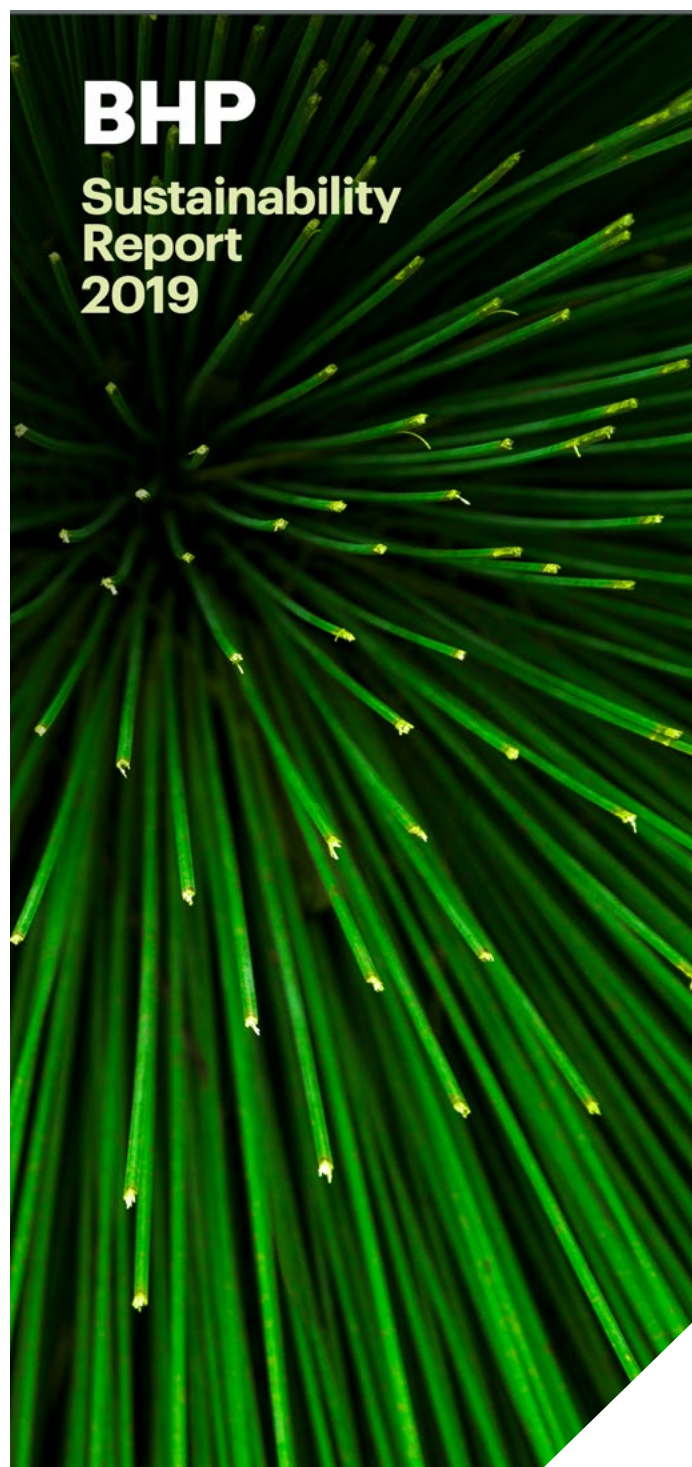
Responding to climate change is a priority governance and strategic issue for BHP. The company's board is actively engaged in the governance of climate change issues, including the strategic approach, supported by the Sustainability Committee. Management has primary responsibility for the design and implementation of the climate change strategy; and performance against targets is reflected in senior executive and leadership remuneration.

BHP is committed to open and transparent reporting of climate risks and opportunities, as outlined further below.

Disclosure of operational emissions: BHP has been reporting operational emissions and progress against targets for over 20 years. Initially this disclosure was in independently verified Sustainability Reports, and in more recent years also in the Annual Report. In 2019, operational emissions performance at the asset level was added for the first time.

Disclosure of Scope 3 emissions: While reducing operational emissions is vital, emissions from the value chain (Scope 3 emissions) are significantly higher than those from BHP's operations. The company therefore works with customers, suppliers and other value chain participants to seek to influence emissions reductions across the life cycle of the company's products. For a diversified resources company, estimating the overall Scope 3 footprint of the value chain is challenging. Reflecting that, BHP conducted a project in 2018 to improve the Scope 3 accounting approach, which led to enhanced reporting: (i) further disaggregated emissions data for major emissions sources and (ii) more detail on Scope 3 calculation methodologies. The latter is set out in a 34-page 'Scope 3 Emissions Calculation Methodology' paper that is updated annually and posted on the website.

Scenario analysis: BHP's Climate Change: Portfolio Analysis (2015) and Climate Change: Portfolio Analysis — Views after Paris (2016) reports, which are available online at bhp.com/climate, describe how the company has used scenario analysis to evaluate the resilience of the portfolio to both an orderly and a more rapid transition to a 2°C world. Portfolio analysis is being updated in 2020, evaluating the potential impacts of a broader range of scenarios including a transition to well below 2°C.



Climate-related financial disclosures: BHP was one of the first companies to align its disclosures with the recommendations of the TCFD. BHP believes the TCFD Recommendations represent an important step towards establishing a widely accepted framework for climate-related financial risk disclosure. As responding to climate change is an integral part of BHP's strategy and operations, the TCFD-aligned disclosures are located throughout the annual report. A table is included (on page 65 of the 2019 annual report) showing how the disclosures in the annual report align to the TCFD recommendations and where the relevant information is located. See Figure 8.

BHP will continue to review developments in investor expectations and regulatory trends relating to climate change reporting and disclosure to ensure the Company continues to effectively address disclosure under its climate change strategy.

Figure 8: Excerpt from BHP 2019 Annual Report, p 65

Location of TCFD-aligned disclosures

TCFD recommendation	BHP disclosure	Reference
Material issues – disclose the organization's governance and climate-related risks and opportunities		
(a) Disclose the board's oversight of climate-related risks and opportunities	<ul style="list-style-type: none"> ESG Management Board climate governance – climate change 2019 Annual Report, Governance 	<ul style="list-style-type: none"> 10.1 26 210-2
(b) Describe management's role in assessing and managing climate-related risks and opportunities	<ul style="list-style-type: none"> ESG Management Climate change – management's role in climate change 2019 Annual Report, Governance ESG 2019 Performance Data Sheet ESG 2019 Performance Data Sheet – ESG 2019 Performance Data Sheet 	<ul style="list-style-type: none"> 10.1 170-4 210-2 210-2 210-2
Strategy – Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy and financial planning where such risks and opportunities are material		
(a) Disclose the climate-related risks and opportunities the organization has identified over the short, medium, and long terms	<ul style="list-style-type: none"> ESG Management – ESG factors of climate change, greenhouse gas emissions and energy Climate change – management's role in climate change 	<ul style="list-style-type: none"> 10.1 170-4
(b) Disclose the impact of climate-related risks and opportunities on the organization's financial, business, and human resources planning	<ul style="list-style-type: none"> ESG Management – ESG factors of climate change, greenhouse gas emissions and energy Climate change – management's role in climate change 	<ul style="list-style-type: none"> 10.1 170-4
(c) Disclose the climate-related risks and opportunities the organization has identified over the short, medium, and long terms, including (2019 climate scenario)	Climate change – including the climate scenario reports	170-4
Risk management – Disclose how the organization identifies, assesses, and manages climate-related risks		
(a) Describe the organization's processes for identifying and assessing climate-related risks	ESG Management	10.1
(b) Describe the organization's processes for managing climate-related risks	ESG Management – ESG factors of climate change, greenhouse gas emissions and energy	10.1
(c) Describe the organization's processes for identifying, assessing, and managing climate-related risks and opportunities in the organization's financial planning	ESG Management	10.1
(d) Describe the organization's processes for identifying, assessing, and managing climate-related risks and opportunities in the organization's financial planning	<ul style="list-style-type: none"> ESG Management – ESG factors of climate change, greenhouse gas emissions and energy 	<ul style="list-style-type: none"> 11.2 10.1
Metrics and targets – disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material		
(a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in the short, medium, and long-term management processes	<ul style="list-style-type: none"> Non-financial KPIs – Sustainability KPIs Climate change – Operational emissions Climate change – Energy efficiency 	<ul style="list-style-type: none"> 10.2 170-3 170-4
(b) Disclose Scope 1, Scope 2, and, if applicable, Scope 3 greenhouse gas (GHG) emissions, and the related risks	<ul style="list-style-type: none"> Non-financial KPIs – Sustainability KPIs Climate change – Operational emissions performance Climate change – Energy efficiency performance Climate change data 	<ul style="list-style-type: none"> 10.2 170-4 170-4 26
(c) Disclose the targets used by the organization to manage climate-related risks and opportunities and performance against targets	<ul style="list-style-type: none"> Non-financial KPIs – Sustainability KPIs Climate change – Operational emissions performance ESG 2019 Performance Data Sheet 	<ul style="list-style-type: none"> 10.2 170-3 210-2

Insights from the EY Climate Risk Disclosure Barometer 2019

The [EY Climate Risk Disclosure Barometer: Australia 2019](#) report (the 'Report') provides a snapshot of the alignment of climate risk disclosure by Australian businesses with the Taskforce for Climate-related Financial Disclosures (TCFD) Recommendations (the 'Recommendations') for sectors of the economy which are likely to be impacted by climate change. The Report offers insights into the state of climate risk disclosure across sectors of the Australian economy and suggests areas of improvement.

Research for the report assessed the extent to which companies had adopted the Recommendations based on publicly-available disclosures as at the end of March 2019. The Report is based on research and analysis of climate risk disclosures for 175 companies comprised of ASX 200 companies and the 20 largest superannuation funds. Companies were scored on two metrics;

- **coverage** of the TCFD Recommendations — the number of the TCFD Recommendations addressed in disclosures, and
- **quality** of disclosures — the depth to which companies disclose information on each TCFD Recommendation.

Almost all sectors of the economy face major disruption from climate transition and climate impacts over the coming years. Yet EY's assessment indicates the majority of companies are still not engaging seriously with these risks, or positioning themselves to take advantage of potential opportunities.

The Report showed that roughly two-third of the companies assessed have started to disclose climate change-related risks. However, the quality of these disclosures was poor. Most companies were found to not be providing the depth in disclosures called for in the Recommendations. The average quality score was just 29 per cent in Australia, which lags the 31 per cent score globally that is identified in EY's 2019 Global Climate Risk Disclosure Barometer report. When compared with the prior year's assessment, there has only been an incremental improvement of 3 per cent in Australia. We expect further improvement as Australian regulators increase their requirements for disclosure of climate risks, combined with broader pressures from investors and the public.

Across each of the core elements of the Recommendations companies reported best on 'metrics and targets' and 'governance'. Disclosures on 'risk management' and 'strategy' were the least mature. This is likely because these aspects of disclosure are more complex, requiring detailed assessment on how climate change will impact a company and how resilient the company is to climate risks or how well-positioned it is to seize the opportunities.

The Report is complemented by EY's 2018 Global Investor Survey which found that 48 per cent of investors surveyed would immediately rule out an investment on the basis of climate risks disclosures and that the vast majority (92 per cent) said climate risk disclosures would affect investment decisions. The Survey also found that investors are mainly relying on annual reports for gathering information. However, the Report highlights that climate risk disclosures have not yet been widely incorporated within financial filings which is a key theme of the Recommendations. Rather, the majority of disclosures are within non-financial reports, such as sustainability reports and reports to the Carbon

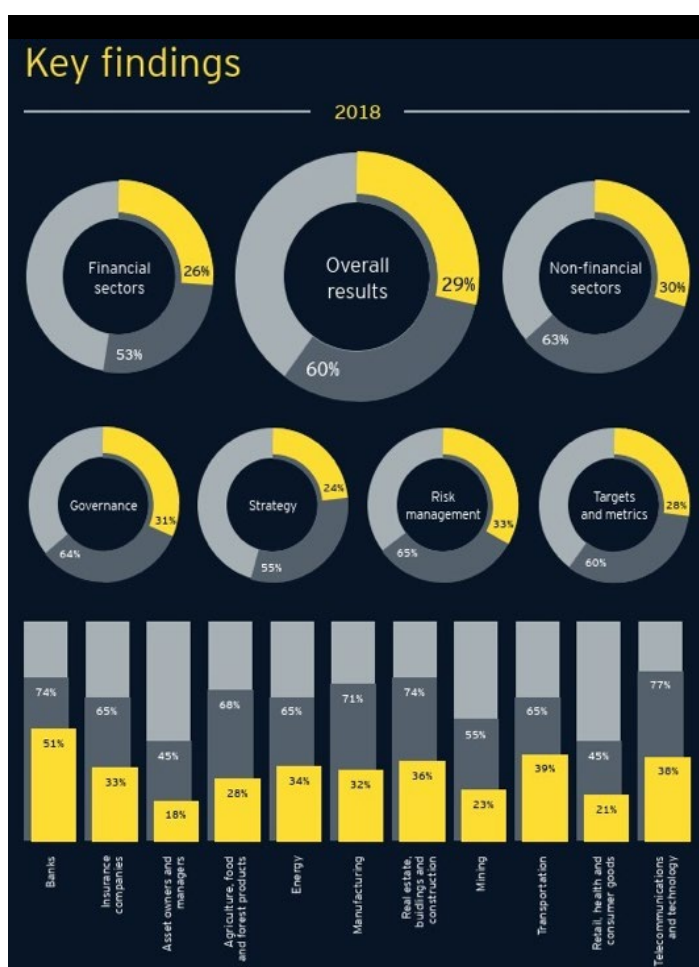
Disclosure Project (CDP), meaning there is a mismatch between what investors are wanting and what companies are providing.

Disclosures relating to the 'physical risks' of climate change are not as mature as disclosures of risks associated with the 'transition' to a low carbon future. The Report highlights the inherent complexity of modelling the impact of physical risks on business operations, supply chains and markets and the lack of standardised approaches for undertaking this type of analysis as the reasons for disclosure of physical risks falling behind disclosure of transition risks.

EY's assessment also identifies the disparity between companies within sectors. Leadership on disclosure of climate-related risks is limited to a few top performers, and across all sectors there is a considerable gap between these few top performers and other companies.

EY expects to see a continued improvement in the coverage and quality of disclosures by companies. This will continue to be driven by increased requirements by regulators, investor demands, and socially aware customers and employees. EY anticipates the climate risk disclosure landscape will evolve over several reporting cycles as companies mature in their understanding and assessment of climate-related risks.

Figure 9: EY Climate Risk Disclosure Barometer 2019 findings

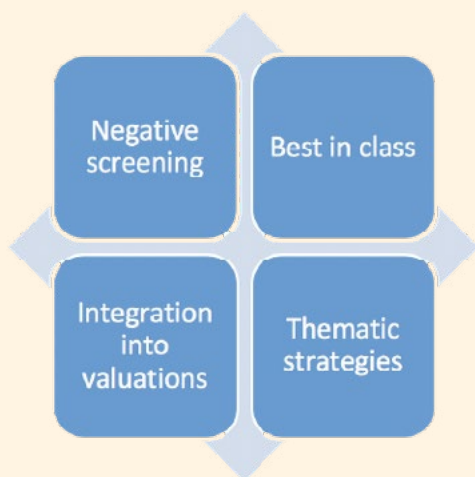


Source: [EY Climate Risk Disclosure Barometer: Australia 2019](#) p 10.

Investors' approaches to climate change disclosures

There are four main approaches that investors have come to follow in aligning their funds' investments with climate-related investment objectives.

Figure 10: Investor approaches to climate change disclosure



1. Negative screening: The investment 'opportunity set' or set of all possible portfolios that could be constructed from a given set of assets, is narrowed to remove companies, such as high CO2 emitting companies/sectors, from the investment universe

2. Best in class: The active manager underweights the higher CO2-emitting/less climate-aware companies and overweights the less CO2-emitting/more climate-aware companies against a standard benchmark.⁵⁸ These funds tend to use a scoring system or proprietary model and, to varying degrees will adopt a rules-based approach to portfolio construction to ensure that a particular outcome is achieved in terms of emissions reduction and/or climate resilience.

3. Integration into valuations: This involves investment strategies that have an investment process that incorporates climate-related risks and opportunities into the bottom up, and top-down, assessment of companies and portfolio construction. These strategies are less likely to have an explicit label or low-carbon investment theme but instead will seek to manage climate-related impacts as an integrated part of the valuation and engagement process.

4. Thematic strategies: Investment strategies that explicitly focus on low carbon, or climate-alignment investment sectors and themes, for example, lower emissions, resource efficiency, water efficiency, waste management, renewable energy/technology and energy efficiency. These approaches may be less diversified than broader equity funds that take an integrated approach, depending on how narrowly defined the climate-related theme is and the sector exposure implications. The investment benchmark is likely to be more constrained and the portfolio risk more concentrated. However, it will be easier to demonstrate clear and definite links to achieving specific climate-related outcomes.

From [Low carbon investing and listed equity funds at UNPRI.org.au](#)



58. An active [investment](#) approach involves moving funds either between [asset classes](#) (asset allocation), sectors (sector rotation) or between individual [securities](#) ([security selection](#)) to seek superior returns.

Appendix 1

TCFD reporting hierarchy and disclosure principles

Recommendations and guidance



Recommendations

Four widely adopted recommendations tied to: governance, strategy, risk management and metrics and targets.

Recommended disclosures

Specific recommended disclosures organizations should include in their financial filings to provide decision-useful information.

Guidance for all sectors

Guidance providing context and suggestions for implementing the recommended disclosures for all organizations.

Supplemental guidance for certain sectors

Guidance that highlights important considerations for certain sectors and provides a fuller picture of potential climate-related financial impacts in those sectors.

Supplemental guidance is provided for the financial sector and non-financial sectors potentially most affected by climate change.

Source: TCFD Final Report p 14

Governance	Strategy	Risk management	Metrics and targets
<p>Disclose the organisation's governance around climate-related risks and opportunities.</p>	<p>Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.</p>	<p>Disclose how the organisation identifies, assesses, and manages climate-related risks.</p>	<p>Disclose the organisation's governance around climate-related risks and opportunities.</p>
Recommended disclosures	Recommended disclosures	Recommended disclosures	Recommended disclosures
<p>a. Describe the board's oversight of climate-related risks and opportunities</p>	<p>a. Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.</p>	<p>a. Describe the organisation's processes for identifying and assessing climate-related risks.</p>	<p>a. Disclose the metrics used by the organisation to assess climate related risks and opportunities in line with its strategy and risk management process.</p>
<p>b. Describe management's role in assessing and managing climate-related risks and opportunities.</p>	<p>b. Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.</p>	<p>b. Describe the organisation's processes for managing climate-related risks.</p>	<p>b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.</p>
	<p>c. Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</p>	<p>c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.</p>	<p>c. Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.</p>

Source: TCFD Final Report p 14

Appendix 2

Seven principles for effective disclosure under the TCFD

Principles for effective disclosure

1. Disclosure should represent relevant information
2. Disclosures should be specific and complete
3. Disclosures should be clear, balanced and understandable
4. Disclosures should be consistent over time
5. Disclosures should be comparable among companies within a sector, industry, or portfolio
6. Disclosures should be reliable, verifiable, and objective
7. Disclosures should be provided on a timely basis

Source: *TCFD Final Report*, p 18.

