



APRA

PRUDENTIAL PRACTICE GUIDE

CPG 229 Climate Change Financial Risks

November 2021

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About this guide

Prudential practice guides (PPGs) provide guidance on APRA's view of sound practice in particular areas. PPGs frequently discuss legal requirements from legislation, regulations or APRA's prudential standards, but do not themselves create enforceable requirements.

This PPG aims to assist an APRA-regulated institution in complying with *Prudential Standards CPS 220 Risk Management* (CPS 220), *SPS 220 Risk Management* (SPS 220), *CPS 510 Governance* (CPS 510), *SPS 510 Governance* (SPS 510) and, more generally, to outline prudent practices in relation to climate change financial risk management.

In this PPG, the term:

- 'climate risks' refers to the financial risks arising from climate change, including physical, transition and liability risks; and
- 'APRA-regulated institution' refers to an authorised deposit-taking institution (ADI), a registrable superannuation entity (RSE) licensee (RSE licensee), a general insurer, a life company (including friendly societies), a private health insurer, an authorised non-operating holding company (NOHC) and, where applicable, Level 2 and Level 3 groups.

This PPG is designed to be read together with CPS 220, SPS 220, CPS 510 and SPS 510, but does not address all prudential requirements in relation to risk management and governance.

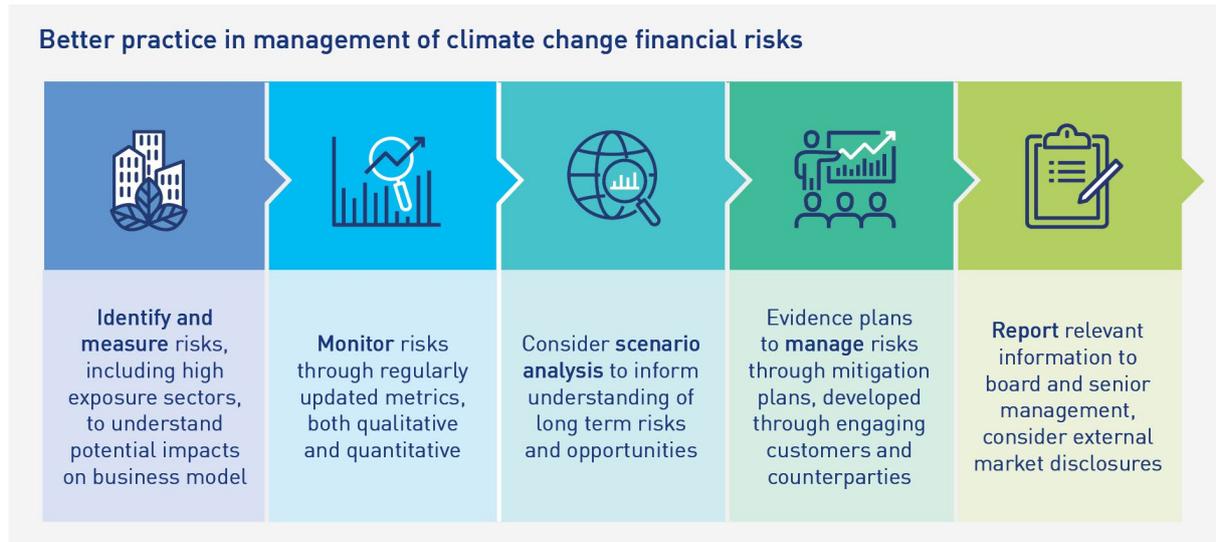
Subject to meeting the requirements of the prudential standards, an APRA-regulated institution has the flexibility to configure its approach to climate risk management in a manner best suited to achieving its business objectives. Not all of the practices outlined in this PPG are relevant for every institution, and some aspects may vary depending upon the size, business mix and complexity of the institution.

Introduction

1. The risks of a changing climate extend to all sectors of the economy. The need to adapt to the changing climate will also bring new business opportunities. Within the financial sector, a prudent institution will consider both the financial opportunities and the financial risks of climate change as it sets its strategy.
2. APRA's mandate is to ensure that, under all reasonable circumstances, financial promises made by APRA-regulated institutions are met within a stable, efficient and competitive financial system. APRA is seeking to ensure that APRA-regulated institutions manage the risks and opportunities that may arise from a changing climate in line with APRA's approach to other types of risks.
3. The information in this guide does not impose new requirements in relation to climate risks: rather, it supports compliance with APRA's existing risk management and governance requirements and provides guidance to assist an institution to manage climate risks (Figure 1). In keeping with APRA's mandate, this guidance does not seek to determine an institution's individual investment, lending or underwriting decisions, but does aim to ensure that these decisions are well-informed.
4. This PPG reflects the established framework for considering and managing climate risks developed by the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD)¹, as well as good practice observed through APRA's own analysis.

¹ Financial Stability Board Task Force on Climate-related Financial Disclosures, *Final Report: Recommendations of the task force on climate-related financial disclosures* (June 2017).

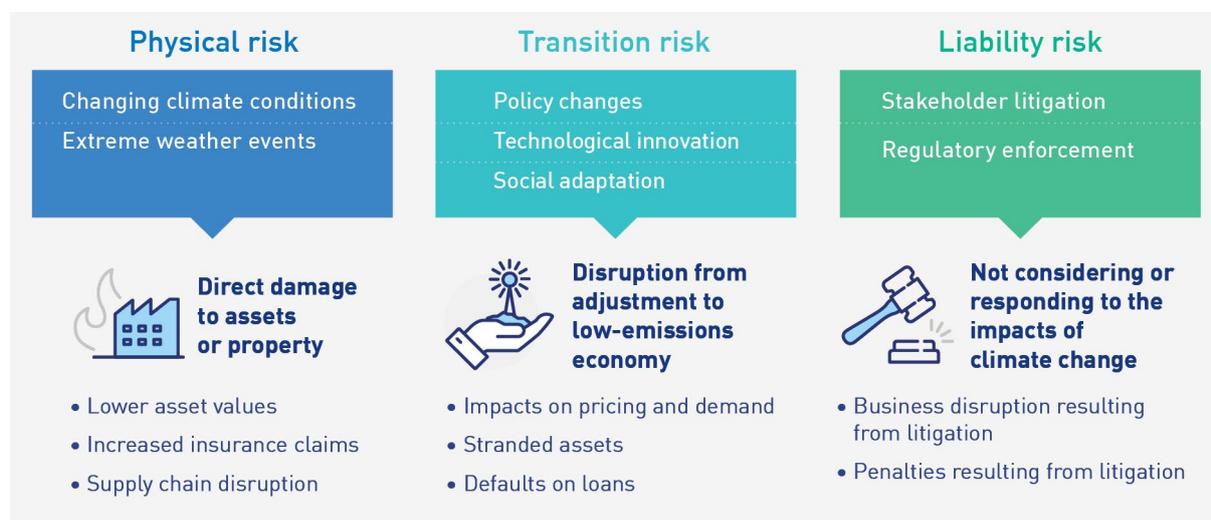
Figure 1. Overview of APRA's climate change financial risk guidance



The financial risks of climate change

5. The financial risks of climate change, including physical climate risks, transition climate risks, and liability risks (Figure 2) are referred to in this guidance collectively as climate risks.
6. Physical climate risks, including both longer-term changes in climate (chronic risk) as well as changes to the frequency and magnitude of extreme weather events (acute risk), can cause direct damage to assets or property, changes to income and costs, and changes to the cost and availability of insurance.
7. Transition climate risks include risks related to changes in domestic and international policy and regulatory settings, technological innovation, social adaptation and market changes, which can result in changes to costs, income and profits, investment preferences and asset viability.
8. Climate change may also give rise to liability risks which have implications for businesses and directors' duties. Liability risks stem from the potential for litigation where institutions and boards do not adequately consider or respond to the impacts of climate change.

Figure 2. Climate change financial risks

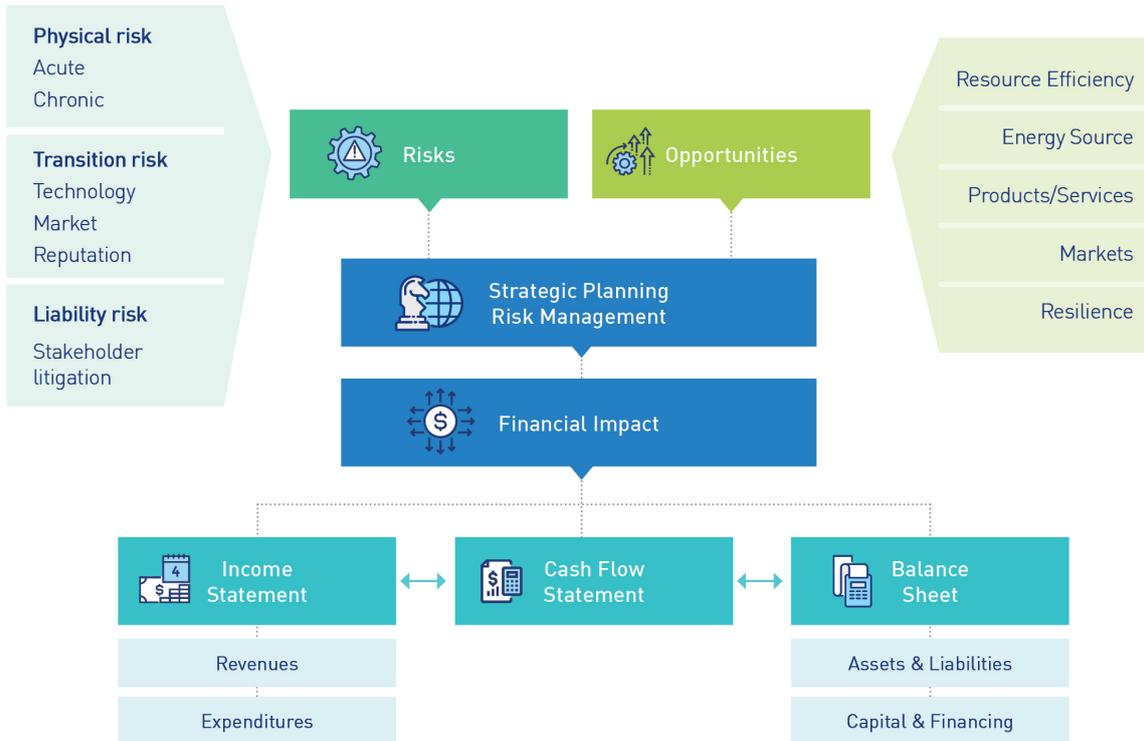


9. A prudent institution would take a strategic and risk-based approach to the management of the various risks and opportunities arising from climate change, recognising the unique nature and far-reaching potential impacts of a changing climate.
10. It is important for institutions to understand the interaction between climate risks and their business activities, including the compounding effect climate risks may have on an institution's other risks, including:

- a) credit risk – through a potential increase in defaults on loans by businesses and households that may be affected by adverse climate events, as well as the potential for assets used as collateral to decline in value;
 - b) market risk – through the impact of potential re-pricing of financial instruments and corporate debt affecting the value of securities held on an institution’s balance sheet;
 - c) operational risk – including the risk of supply chain disruption and forced facility closures;
 - d) insurance risk – through a potential increase in insured losses as a result of more frequent and/or extreme weather events;
 - e) liquidity risk – through an increased demand for liquidity to respond to extreme weather events, the difficulties that may be faced in liquidating assets negatively impacted by climate risks, or through funding risks associated with cost or availability of wholesale debt; and
 - f) reputational risk – including an institution’s ability to attract and retain customers and employees due to changing employee and community expectations.
11. While APRA considers that climate risks can and should be managed within an institution’s broader risk management framework, the financial risks associated with climate change have a number of elements that distinguish them from other financial risks, and necessitate a strategic approach to their management. These elements include:
- a) the potential for irreversible changes in climate, leading to impacts that may not be easily mitigated or reversed;
 - b) the far-reaching impact that climate risks pose to all parts of the financial system, including different business types, geographical locations and economic sectors, as well as the potential for risks to manifest across multiple lines of business at the same time;
 - c) the uncertain and extended time horizon over which climate risks may materialise, which is likely to extend beyond typical business planning cycles; and
 - d) the unprecedented nature of climate change, meaning that historical data and traditional backward-looking risk assessment methods are unlikely to adequately anticipate future impacts.
12. How and when specific climate risks will materialise is uncertain, but there is a high degree of certainty that some financial risks will materialise as a result of climate change. An institution can mitigate the magnitude of the impacts of these financial risks through governance, risk management, scenario analysis and disclosure. Investing in better risk management will also allow institutions to identify and benefit from opportunities that arise from the transition to a lower-emissions economy, including

meeting increasing investor demand for sustainable finance and identifying customers that are well positioned to respond to climate change (Figure 3).

Figure 3. Climate risks, opportunities and financial impact



² Adapted from Financial Stability Board Task Force on Climate-related Financial Disclosures, *Final Report: Recommendations of the task force on climate-related financial disclosures* (June 2017).

Governance

13. Prudential standards CPS 510 and SPS 510 set out the minimum governance requirements of an APRA-regulated institution. The ultimate responsibility for the sound and prudent management of an APRA-regulated institution's business operations rests with its board of directors³. APRA therefore considers it prudent practice for the board to seek to understand and regularly assess the financial risks arising from climate change that affect the institution, now and into the future.
14. APRA is of the view that climate risks can and should be managed within an institution's overall business strategy and risk appetite, and a board should be able to evidence its ongoing oversight of these risks.
15. The board of an institution may delegate certain functions of the management of climate risks but, as with other risks, needs to maintain mechanisms for monitoring the exercise of this delegated authority. Board-level engagement is important to ensure that work on climate risks holds sufficient standing within an institution, and gives the board the requisite institution-wide insights to strategically respond to the risks.
16. In fulfilling its obligations under CPS 510 and SPS 510, a prudent board is, in overseeing the management of climate risks, likely to:
 - a) ensure an appropriate understanding of, and opportunity to discuss, climate risk at the board and sub-committee levels, which may include appropriate training for board members;
 - b) set clear roles and responsibilities of senior management in the management of climate risks, and hold senior management to account for these responsibilities;
 - c) re-evaluate the risks, opportunities and accountabilities arising from climate change on a periodic basis, and consider these risks and opportunities in approving the institution's strategies and business plans;
 - d) take both a shorter-term view (consistent with the institution's regular business planning horizon) and longer-term view when assessing the impact of climate risks and opportunities; and
 - e) ensure that, where climate risks are found to be material, the institution's risk appetite framework incorporates the risk exposure limits and thresholds for the financial risks that the institution is willing to bear.

³ For the purposes of this PPG, a reference to the board, in the case of a foreign ADI, Category C insurer or an eligible foreign life insurance company (EFLIC), is a reference to the Senior Officer Outside of Australia or Compliance Committee (as applicable) as referred to in *Prudential Standard CPS 510 Governance*.

17. In light of the board responsibilities set out in Paragraph 16, an institution's senior management would typically be responsible for:
- a) applying an institution's risk management framework to assess and manage climate risk exposures on an ongoing basis, including developing and implementing appropriate policies;
 - b) regularly reviewing the effectiveness of the framework, policies, tools, and metrics and targets, and making appropriate revisions;
 - c) providing recommendations to the board on the institution's objectives, plans, strategic options and policies as they relate to climate risks that are assessed to be material. This may include the establishment and use of relevant tools, models, and metrics and targets to monitor exposures to climate risks so as to enable the board to make informed decisions in a timely manner; and
 - d) ensuring that adequate resources, skills and expertise are allocated to the management of climate risks, including thorough training and capacity building amongst relevant staff.

Risk management

18. Under CPS 220 and SPS 220, the board of an APRA-regulated institution is ultimately responsible for both the institution's risk management framework, and for the oversight of its operation by management. Senior management of the institution monitor and manage all material risks consistent with the strategic objectives, risk appetite statement and policies approved by the board. APRA considers it prudent for climate risks to be considered within an institution's existing framework, including the board-approved risk appetite statement, risk management strategy and business plan.
19. A prudent institution would seek to ensure that its arrangements to identify, measure, monitor, manage, and report on its exposure to climate risks are conducted in a manner appropriate to the institution's size, business mix and complexity of its business operations.

Policies and procedures

20. APRA considers that prudent practice would be for an institution to evidence the management of climate risks within its written risk management policies, management information, and board risk reports. Where climate risks are material, this may require updating existing risk management policies and procedures.
21. As a matter of good practice, the policies and procedures developed under the risk management framework would include a clear articulation of the respective roles and responsibilities of business lines and risk functions (i.e. Line 1 and Line 2 activities) in relation to managing climate risks.

Risk identification

22. A prudent institution would seek to understand climate risks and how they may affect its business model, including being able to identify material climate risks and assess their potential impact on the institution. Scenario analysis, with both a shorter- and longer-term time horizon, is a useful tool for informing the risk identification process (see further discussion on scenario analysis in Paragraphs 37 to 46).
23. CPS 220 and SPS 220 identify categories of risk that the risk management framework must cover at a minimum. Climate risks can be considered within these established risk categories. A prudent institution would be able to demonstrate how it determines the materiality of climate risk within each of these categories.
24. A prudent institution would likely seek to identify economic sectors with higher or lower exposures to physical and/or transition climate risks. The risk criteria for this identification may include a range of factors, such as:
 - a) vulnerability to extreme weather events;
 - b) the level of greenhouse gas emissions;

- c) potential exposure to changes in climate-related policy or technology;
- d) vulnerability to climate-related supply chain changes or disruption;
- e) vulnerability to climate-related disruption of business activities; and/or
- f) linkages to unsustainable practices.

The assessment of economic sectors may be used to develop sector-specific policies and procedures for the institution when undertaking business engagements (such as investing, insuring or lending) with that sector. Good practice would see an integrated approach to climate risks taken across different business lines (such as underwriting, investment, product development and lending functions).

25. APRA views it to be appropriate for an institution to consider and record any material impact on capital adequacy as a result of climate risks. An institution may choose to use the Internal Capital Adequacy Assessment Process (ICAAP) for this purpose. An institution that is not required to complete an ICAAP may benefit from adopting a similar approach to recording any material exposures and how the assessment of those exposures is considered, for example within stress testing policies and processes.

Risk monitoring

26. Better practice in monitoring climate risks includes both a qualitative and quantitative approach, including developing metrics to measure and monitor climate risks appropriate to an institution's size, business mix and complexity of business operations. Such metrics might typically be used, for example, to assess portfolio exposures to geographical areas and economic sectors with higher or lower climate risk⁴.
27. More advanced quantitative risk metrics may take a variety of forms, such as direct and indirect emissions (usually classified into scope 1, scope 2 and relevant scope 3 emissions⁵), exposure to physical risks, monitoring potential impacts to core business metrics such as credit risk, losses or investment returns, modelling the impact of climate scenarios on project returns and/or quantifying the impact of adaptation measures.

⁴ Further guidance on the metrics an institution may develop is provided by the Financial Stability Board Task Force on Climate-related Financial Disclosures, *Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures* (June 2017).

⁵ Scope 1 refers to all direct greenhouse gas emissions arising from a business' own activities. Scope 2 refers to indirect greenhouse gas emissions from the use of purchased electricity, heat or steam. Scope 3 refers to other indirect emissions not covered in Scope 2 that occur in the value chain of the reporting company, including both upstream and downstream emissions. Relevant scope 3 emissions for finance sector entities includes the scope 1, scope 2 and material scope 3 emissions from businesses to which they have a financial exposure (e.g. through lending activities, insurance products, and investments), or the scope 3 emissions of emissions-intensive inputs to their businesses. For further information, see Financial Stability Board Task Force on Climate-related Financial Disclosures, *Final Report: Recommendations of the task force on climate-related financial disclosures* (June 2017), and the Greenhouse Gas Protocol's *Corporate Value Chain (Scope 3) Accounting and Reporting Standard and Technical Guidance for Calculating Scope 3 Emissions*.

28. Quantitative metrics would assist an institution in understanding the potential current and future impacts of climate change on its customers, counterparties, and organisations to which the institution has an exposure. Where an institution does not have the necessary information to assess these impacts, it is appropriate for the institution to engage with customers and counterparties to form an understanding of the extent to which the impacts may be material to the institution's own risks.
29. A prudent institution is likely to use data from both publicly available and proprietary sources, and potentially seek assistance from external experts where necessary (including academics, specialist consultants, and scientific bodies). This data may be used to better understand the possible impacts of climate change on its own operations as well as those of its customers, counterparties, and organisations to which the institution is exposed.
30. A prudent institution may also wish to set climate-related targets for its activities. A climate-related target is a specific level, threshold, quantity, or qualitative outcome that an institution wants to achieve, over a defined time horizon, to assist in managing its climate-related risks and opportunities. Climate-related targets should be linked to an institution's climate-related metrics, and aligned to an institution's overall business strategy and risk management framework. The climate-related targets established by an institution may also reference external benchmarks, such as sector, national and/or international targets⁶.
31. Given the evolving understanding of climate change, a prudent institution would ensure that climate risk data, metrics and targets were updated regularly to support decision-making by the institution's board and senior management. It would also consider the circumstances which might trigger a review of its strategy or engagement with customers and counterparties.
32. Better practice in risk monitoring extends to monitoring the impacts that climate risks may have on outsourcing arrangements, service providers, supply chains and business continuity planning.

Risk controls

33. Where an institution has identified material climate risks, a prudent institution would establish and implement plans to mitigate these risks and manage its exposures, as well as regularly review and assess the effectiveness of those plans. For example, an institution might develop plans to manage concentrations in its portfolio for certain geographic or economic sectors with higher climate risks.
34. In most cases, APRA envisages that an institution would choose to work with customers, counterparties and organisations which face higher climate risks, to improve the risk profile of those entities. Indeed, providing finance to assist customers to adapt to climate

⁶ Further guidance on the targets an institution may develop is provided by the Financial Stability Board Task Force on Climate-related Financial Disclosures, *Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures* (June 2017).

change is an important function of the financial system. However, where the institution considers this engagement will not result in the climate risks being adequately addressed, an institution may need to consider standard risk mitigation options such as:

- a) reflecting the cost of the additional risk through risk-based pricing measures;
- b) applying limits on its exposure to such an entity or sector; or
- c) where the risks cannot be adequately addressed through other measures, considering the institution's ability to continue the relationship.

Risk reporting

- 35. To facilitate well-informed decision-making, APRA expects that a prudent institution would establish procedures to routinely provide relevant information on its material climate risk exposures, including monitoring and mitigation actions, to the board and senior management. This information would allow the board and senior management to understand and review the activities, and to make decisions consistent with the institution's overall risk appetite and risk management approach.
- 36. The extent and frequency of reporting should be tailored to the nature and magnitude of the risks to which the institution is exposed.

Scenario analysis

37. In fulfilling their obligations under CPS 220, it would be prudent for institutions to develop capabilities in climate risk scenario analysis and stress testing, or to have access to external scenario analysis and stress testing capabilities. This analysis would inform their risk identification over both the shorter- and longer-term. Scenario analysis and stress testing for climate risks is a developing area, and APRA expects approaches to evolve and mature over time; however, the expectation of future improvements in approach is not a justification for delaying its use.
38. APRA expects the use of scenario analysis and stress testing for climate risks to be proportionate to an institution's size, business mix and complexity. In general, larger and more complex institutions, with a wider range of business activities, would be expected to have more advanced analytical capability. However, depending on its business model, a smaller institution may be highly concentrated in a particular market, sector or geographical location that is exposed to material climate risks. In such circumstances it may be appropriate for the institution to seek assistance with scenario analysis and stress testing to assess the impact of climate risks on its risk profile and business strategies, and to explore its resilience to financial losses under a range of outcomes.
39. An institution in the early stages of climate risk analysis is likely to begin by developing an understanding of the material risks to which it is exposed, including identifying industries and regions with particular risks within the institution's portfolio. A range of analytical approaches, from simple to complex, could be used to support an institution's understanding of their material climate risks: an institution should choose approaches appropriate to its circumstances.
40. Where an institution lacks the data, resources or expertise to conduct climate risk stress testing with appropriate quantitative assessments, it may still benefit from narrative-driven scenario analysis⁷. Qualitative scenarios can provide insights into the operations and channels of risk transmission, and findings from such an assessment can be reflected in business plans, strategies and risk management practices.
41. When conducting more advanced quantitative climate risk analysis, an institution would typically seek to identify and simulate scenarios which are both plausible and relevant to the institution's operations. Climate risk scenario analysis is a developing area, and not all institutions will have the capability to undertake best practice analysis. However, in developing their capability, institutions should have regard to leading practice which entails:
 - a) A shorter-term assessment of the institution's current exposures to climate risks, in line with current business planning cycles.

⁷ Climate risk narratives provide an overview of a climate scenario, and typically include a description of the economic, policy, technology and social (and other) features of the scenario. Narrative-driven scenario analysis can use these features of climate scenarios as a basis for a qualitative evaluation of potential climate risks.

- b) A longer-term assessment of the institution's future exposures based on a range of different climate-related scenarios, potentially extending to 2050 or beyond. Key considerations when building such scenarios include:
- i) Future temperature rise:
 - global average temperatures continuing to rise in the absence of mitigating actions and policies (for example, an emission trajectory consistent with global average warming of 3°C or more above historic temperatures by 2100⁸), leading to greater physical climate risks; and
 - limiting global average temperature increase to well below 2°C by 2100, consistent with the Paris Agreement, reducing the magnitude of longer-term physical risks;
 - ii) Economic transition pathway:
 - an orderly transition to a lower-emissions economy, with policies and activities to address climate change being introduced early and gradually becoming more stringent, minimising both physical and transition risks; and
 - a disorderly transition to a lower-emissions economy, with delayed action to reduce emissions leading to an increase in acute transition risks.
- c) Incorporating both qualitative and quantitative factors into the scenarios used to project the future financial conditions of an institution⁹.
- d) Assessing both physical and transition risks within each scenario used.
- e) Seeking input from external experts such as academics, scientific bodies and/or specialist consultants, while maintaining appropriate internal knowledge and oversight to ensure that the results of any outsourced analysis are credible, realistic and understood by the institution.
- f) Measuring the impact of climate risks on a range of business obligations and considerations, including capital adequacy, liquidity, and the ability (as appropriate) to meet obligations to depositors, policyholders and superannuation fund members.
- g) Incorporating forward-looking information into its scenario analysis, such as by considering future trends in catastrophe risks, technology innovation or policy development. Analysis that relies solely on historical data has the potential to systematically underestimate the impacts of climate risks, due to the complex

⁸ It is standard practice for temperature pathways to refer to a level of average global warming by the year 2100, relative to a 1850-1900 baseline: as such, a 3°C temperature scenario in 2100 would generally correlate with a lesser temperature rise in 2050. APRA does not expect entities to conduct long-term assessments out to 2100.

⁹ Qualitative factors could include direction of change (e.g. warmer temperatures) or economic features (e.g. increased trade and globalisation) of a scenario. Quantitative factors could include emissions budgets, targets and trajectories, emissions prices and a wide range of other factors.

dynamics of interconnected lines of business and the non-linear and unprecedented levels of disruption.

42. When selecting inputs into its climate assessments, an institution seeking to adopt better practice would have regard to:
- a) the time horizon of datasets used, including the need for appropriate longer-term timeframes as well as sufficient temporal resolution for the risks assessed (for example, some physical risks might require seasonal data, while annual or decadal data may be appropriate for other risks);
 - b) geographic specificity, ensuring that local extreme weather events and locations to which an institution may be exposed are represented;
 - c) the impact of multiple extreme weather events arising concurrently; and
 - d) the range of global emissions pathways included in a dataset and the capacity for a model to evaluate simulations and projections, noting that testing scenarios at the extreme ranges is more likely to identify risks.
43. Where institutions publicly disclose the results of their climate risks scenario analysis or stress testing, they should also disclose significant design features and decisions that are necessary for stakeholders to be able to effectively interpret the results and compare them between institutions.
44. Useful guidance on conducting scenario selection and analysis to assess the impacts of climate risks has been produced by organisations such as the TCFD¹⁰, the Climate Measurement Standards Initiative¹¹, and the Network for Greening the Financial System¹².
45. For an APRA-regulated institution incorporating the financial risks of climate change in its ICAAP, APRA considers a narrative-driven process to be a useful approach to considering climate risk scenario analysis and stress testing to assess potential risk exposures and available capital resources.
46. A prudent institution would maintain appropriate documentation of the method and results of its climate risk scenario analysis and stress testing, including an assessment of the limitations of the analysis for assessing the climate risks faced by the institution. Material results should be communicated to the institution's board and senior management, and used to inform business planning and strategy setting, as well as setting and reviewing the institution's overall climate risk management approach.

¹⁰ See Financial Stability Board Task Force on Climate-related Financial Disclosures *Technical supplement: The use of scenario analysis in disclosure of climate-related risks and opportunities* (June 2017).

¹¹ See Climate Measurement Standard Initiative, *Scenario analysis of climate-related physical risk for buildings and infrastructure: Climate science guidance* (September 2020).

¹² See Network for Greening the Financial System, *Guide to climate scenario analysis for central banks and supervisors* (June 2020).

Disclosure

47. The disclosure of decision-useful, forward-looking climate risk information allows interested stakeholders to assess an institution's resilience to climate risks.
48. With increasing demand from investors and other stakeholders for disclosure on climate-related risks, a lack of absolute certainty in relation to climate risks' future impacts should not be considered a reason to avoid disclosure of exposure to these risks.
49. Beyond any statutory or regulatory requirements, a prudent institution would consider whether additional, voluntary disclosures could be beneficial in enhancing transparency and giving confidence to the wider market in the institution's approach to measuring and managing climate risks.
50. APRA considers it better practice for any disclosures to be produced in line with the framework established by the TCFD¹³.
51. APRA anticipates the demand for reliable and timely climate risk disclosure will increase over time, and for institutions with international activities there is a need to be prepared to comply with mandatory climate risk disclosures in other jurisdictions. APRA considers that a prudent institution would continually look to evolve its own disclosure practices, and to regularly review disclosures for comprehensiveness, relevance and clarity, to ensure it is well-prepared to respond to evolving expectations in relation to climate-related disclosures.

¹³ For further guidance, see the Financial Stability Board Task Force on Climate-related Financial Disclosures *Recommendations of the Task Force on Climate-related Financial Disclosures: Final Report (June 2017)*.



APRA