INFORMATION PAPER

Climate change: Awareness to action

20 March 2019

Contents

Executive summary

Over recent years, APRA has highlighted the financial nature of climate change risks to its regulated entities. APRA has advised that these risks are material, foreseeable and actionable now. Awareness and understanding of these financial risks has clearly increased during this time.

A critical paradigm shift has occurred due to the work of industry, domestic and international supervisors and regulators, as well as other key stakeholders. Climate change is increasingly seen as a material prudential risk. A shift from awareness towards action in response to these risks is underway.

APRA's climate change survey of 38 large entities, across all regulated industries, highlights the range of activities and strategic responses that entities are adopting to assess and mitigate these risks. This Information Paper provides insights into the responses to APRA's survey. Regulated entities may compare the results with their own operations and assess their responses to climate change financial risks.

The survey found that a majority of regulated entities were taking steps to increase their understanding of the risk, including all authorised deposit-taking institutions (ADIs), general insurers and RSE licensees surveyed. One third of regulated entities viewed climate risks as material. A wide range of strategic opportunities has been identified. Climate risks are being integrated into risk management frameworks, and more sophisticated financial analysis of scenarios is gaining traction across a range of entities.

As well as outlining the results of APRA's survey, this paper details some of the recent activity from a range of stakeholders, providing context for the global shift in the response to climate change risks. A coordinated approach to the supervision of these risks is provided through international and domestic agencies which promote consistency, and share knowledge and experiences.

In recognising the global transition towards action, APRA's supervision activities will be enhanced, as the assessment of climate change risks is integrated into ongoing supervision activities. APRA expects to observe continuous improvement in the awareness and action of regulated entities.

What are climate risks?
Climate change financial risks are material, foreseeable and actionable

Physical risk

Changing climate conditions

Extreme weather events

Direct damage to assets or property

- Lower asset values
- Increased insurance claims
- Supply chain disruption

Transition risk

Policy changes

Technological innovation

Social adaptation

Disruption from adjustment to low-carbon economy

- Impacts on pricing and demand
- Stranded assets
- Defaults on loans

Liability risk

Stakeholder litigation and regulatory enforcement

Not considering or responding to the impacts of climate change

- Business disruption resulting from litigation
- Penalties resulting from litigation

What did APRA's survey show?
A shift from awareness to action

APRA survey insights

- General awareness of risks
- Risks viewed as material now or in short term
- Potential for new business opportunities
- Upskilling to respond to the risks
- Climate change risks often embedded in risk management frameworks
- Impact analysis undertaken in a range of areas
- TCFD-aligned disclosure in early stages and expected to develop

What action is APRA taking?

Enhanced supervisory action

- supervisory assessments of strategic response to climate risks

Continued industry engagement

- supporting Australia's sustainable finance roadmap

Domestic regulatory coordination

- Council of Financial Regulators working group
- supporting the development of climate change analytical tools

Peer agency cooperation internationally

- SIF-IAIS support of TCFD implementation including Issues Paper
- FSI Insight Paper on supervisory practices for insurance and climate risk

Glossary

ADI	Authorised deposit-taking institution
APRA	Australian Prudential Regulation Authority
ASIC	Australian Securities and Investment Commission
CFR	Council of Financial Regulators
CPS 220	*Prudential Standard CPS 220 Risk Management*
ESG	Environmental, social and governance
ICAAP	Internal Capital Adequacy Assessment Process
NGFS	Central Banks and Supervisors Network for Greening the Financial System
IAIS	International Association of Insurance Supervisors
RBA	Reserve Bank of Australia
RBNZ	Reserve Bank of New Zealand
RSE licensee	Registrable Superannuation Entity licensee
SFSG	Sustainable Finance Study Group
SIF	United Nations Environment's Sustainable Insurance Forum
SPS 220	*Prudential Standard SPS 220 Risk Management*
TCFD	G20 Financial Stability Board Task Force on Climate-related Financial Disclosures
UNEP FI	United Nations Environment Programme Finance Initiative

Background to climate change financial risks

Climate change and society's responses to it are now widely recognised as foundational drivers of risk and opportunity within the global economy. This has implications for APRA's mandate to protect the Australian community by ensuring, under all reasonable circumstances, that financial promises made by APRA-supervised institutions are met within a stable, efficient and competitive financial system. APRA continues to achieve this mandate by promoting awareness and understanding of the financial risks associated with climate change and the need for resilience; promoting financial system stability as well as the interests of depositors, policyholders and superannuation members.

Climate change financial risks include the physical risks which cause direct damage to assets or property as a result of rising global temperatures, as well as transition risks which arise from the transition to a low-carbon economy. Physical risks, including extreme weather events, have the potential to cause supply chain disruption, resulting in lower productivity as well as lower asset values. Transition risks include risks related to regulatory policy, technological innovation, renewable power and energy advancements and social adaptation and can result in stranded assets. These risks also give rise to liability risks. Liability risks stem from the potential for litigation if entities and boards do not adequately consider or respond to the impacts of climate change, and may include the potential breaching of directors' duties.

APRA has advised regulated entities that, while the implications of a changing climate will have a long-term impact and the time horizon for the risks can be uncertain, this does not justify inaction. There is a high degree of certainty that financial risks will materialise, and entities can mitigate the magnitude of the impacts of these risks through action in the short-term. Entities can also seek a competitive advantage through their preparation for the transition to a low-carbon economy. Similarly, APRA has noted that it is imprudent for entities or regulators to ignore such risks just because there is uncertainty, or even controversy, about the policy outlook. With these factors in mind, APRA continues to encourage regulated entities to consider climate risks within their risk management frameworks, consistent with APRA's risk management prudential standards.[1]

[1] *Prudential Standard CPS 220 Risk Management* (CPS 220) and *Prudential Standard SPS 220 Risk Management* (SPS 220).

APRA's climate change survey

In light of the increasing understanding of climate risks by companies, investors and supervisors, and adoption of the G20 Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD) framework, APRA undertook a survey of regulated entities in mid-2018. The survey was designed to assist APRA in understanding and assessing industry maturity in responding to climate change risks and to inform APRA's supervisory approach.

Methodology

The survey responses covered 38 large entities across the ADI, superannuation, and general, life and private health insurance industries. The survey comprised a combination of questions to gain insight and allow for comparability into cross-industry risks, responses, practices and challenges in relation to climate change risks.

The survey aligned with the TCFD recommended framework, allowing the core elements to be broken into themes relating to risk awareness, governance, strategy, risk management, analysis, metrics and targets and disclosure.

The questions that form the survey can be found in Attachment A, and an extract of aggregated answers in Attachment B.

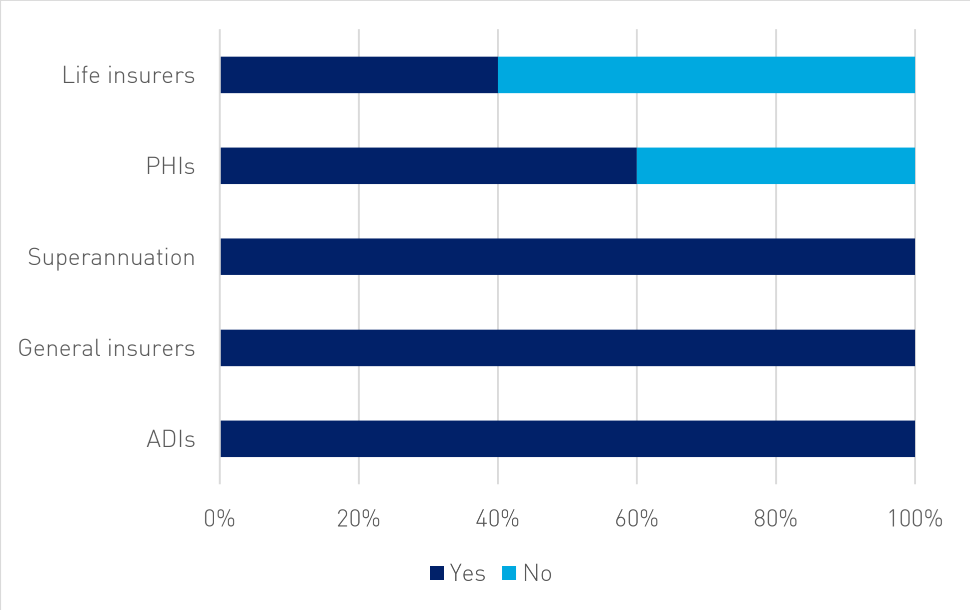
Survey results analysis

APRA's survey confirmed that many entities have moved from an initial phase of establishing a governance structure to strategically considering climate risks. Such entities assume a more granular risk management approach, which considers the risks posed to the business model and underlying products, while also assessing the business opportunities available.

Risk awareness

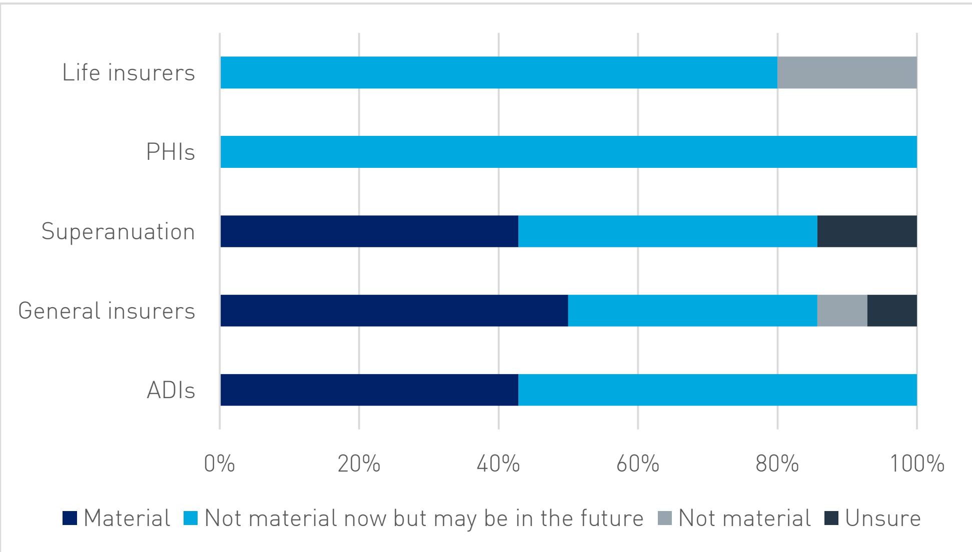
A high level of awareness of climate change risks was shown across the ADI, general insurance and superannuation industries. All institutions in these industries were taking steps to improve their understanding of climate-related financial risks. However, less than half of the life insurers and just over half of private health insurers surveyed are taking steps to improve their understanding (Chart A).

Chart A – Organisations taking steps to improve their understanding of climate risks



One third of respondents viewed climate-related financial risks as being material now and a further half stated that the risks will be material in the future. The remaining respondents believed that the climate-related financial risks were not applicable to their business models or that they still had to undertake further analysis (Chart B).

Chart B – Organisations considering climate-related financial risk to be material



Governance

Many respondents identified the board as having ultimate responsibility for climate-related financial risks. Board committees and management groups assisted boards in overseeing the management of the risks. Some of those committees considered climate-related financial risks as part of their environmental, social and governance (ESG) activities. Organisations with a more mature response indicated that they had set up specific climate risk working groups.

The survey responses also included details on key executive and business unit responsibilities for climate-related financial risks. The executives responsible ranged from Chief Executive Officer/Country Head to Chief Risk Officer, Chief Investment Officer, Chief Financial Officer and Chief Technical Officer. The business units responsible for managing climate-related financial risks ranged from investment teams for registrable superannuation entity (RSE) licensees, and pricing, underwriting, actuarial and reinsurance units for general insurers to environmental and social risk teams, sustainability teams, emerging risk teams and project management for other entities.

With regard to governance frameworks by industry, it was observed that:

- The majority of the ADIs surveyed included climate-related financial risks as part of their risk management framework, with the board having ultimate responsibility. The risk management framework cascades down to board sub-committee and management levels. The largest banks are the most advanced in their approach.
- General insurers that indicated climate change risks to be material to their business generally had similar oversight as ADIs in place. A number of the foreign-owned general insurers are guided by their parent's approach.
- RSE licensees generally indicated that investment teams are responsible for the day-to-day assessment and management of climate change financial risks. The RSE licensees surveyed had sufficient resources to implement better practices such as a dedicated ESG team or ESG manager with this responsibility. Many RSE licensees indicated that oversight sits with the board, with some delegation of responsibilities to sub-committees. Endorsement of climate change risk management policies by the board is critical for implementation of these principles across the entity's operations.
- The private health insurers surveyed generally identified board and executive responsibilities in relation to key risks, highlighting corporate social responsibilities and sustainability rather than specific climate-related financial risks.
- The life insurers surveyed generally identified no specific employee responsible for climate-related financial risks, although many acknowledged the role of the CEO and emerging risk teams in managing any emerging risks.

Strategy

Survey respondents identified a number of strategic initiatives that they had implemented, including the development of climate change action plans, climate change position statements and roadmaps that outline the strategy, targets and steps to take to reach their objectives for managing climate change-related risks. Some ADIs reported that they are investing in lending for green technology or introducing green bonds.

The survey responses indicated that entities are considering climate change risks over multiple time periods, on short, medium and long-term horizons. However, there were some entities that were focused on either short-term or long-term horizons only. These narrower perspectives may pose risks to those entities or leave the entities vulnerable to missed opportunities.

A range of influences for survey respondents' consideration of climate change risks were identified, with investors, customers, the community and regulatory influences being identified across all industries. A number of the respondents indicated that they participate in external working groups both internationally and locally. Other respondents are seeking input from external parties, including academia, consulting firms and specialist experts such as the Bureau of Meteorology to better understand the risks.

ADIs, general insurers and RSE licensees identified opportunities in their responses to climate change risks, including:

- the opportunity to demonstrate industry leadership in relation to climate change responses;
- developing products (including parametric products and other risk transfer solutions); and
- supporting the community in developing resilience and providing education.

Some general insurers indicated that they are improving their capability to respond to the risks by recruiting specialists, undertaking research and analysis, enhancing training and conducting scenario analysis.

Entities observed internal opportunities such as 'improved risk selection and pricing as a competitive advantage' and 'strengthening our technical capabilities to assess and manage climate risks and opportunities and increasing sophistication of tools and capabilities'. These initiatives will create benefits that could put these entities ahead of their peers. Another entity noted that it has 'taken the opportunity to examine our corporate footprint and report on climate-related measures as part of our social licence to operate in appreciation and recognition of the expectations of its investors, customers, suppliers and the community'.

Investment opportunities were also highlighted among survey respondents. One entity observed that 'the transition to a low carbon economy presents investment opportunities in areas such as renewable energy production, distribution and storage, energy efficiency, carbon emissions management and waste management'. Another entity noted the 'opportunity to invest in green technologies and green markets that provide potential for longer term sustainability and growth'. Some RSE licensees were increasing their focus on building exposures to industries and institutions with lower environmental impact.

The strategic opportunities identified by the entities surveyed were generally associated with five key themes identified in Table 1 below.

Table 1 – Strategic opportunities identified

Theme	Examples
New and innovative products for customers	• Innovative products – with a focus on low carbon products and services • Risk transfer solutions, including mortgage lending products, insurance products and parametric products • Green investment options
Investment strategies	• Responsible investments (including renewables, green technologies and bonds)
Services to customers and the community	• Educating customers and industry, including providing research and sharing experiences with customers and the broader community • Supporting customers to be resilient and adaptive
Internal control initiatives	• Updating internal tools and procedures (including pricing tools and catastrophe models) • Including climate change in risk appetite statements • Obtaining latest scientific knowledge and up-to-date climate data • Strengthening technical capabilities
Corporate citizen responsibilities	• Residing in energy efficient buildings • Utilising and sourcing renewable energy/technologies as part of operations • Examining corporate footprint

Risk management

Many of the respondents noted that they had embedded climate-related financial risks into their enterprise risk management frameworks. This is reflective of the sophistication of the entities' risk management frameworks. Life insurers surveyed appeared to have a less developed response to climate risk compared to other entities.

Some risk management initiatives that respondents have undertaken on climate-related financial risks include:

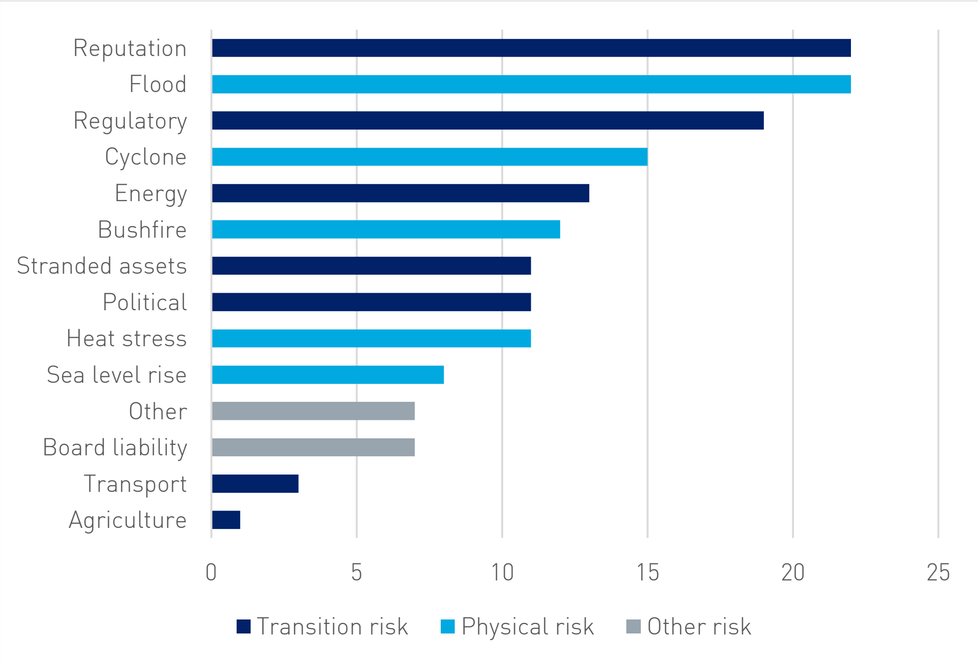
- incorporating climate-related financial risks in risk registers;
- setting out expectations in risk appetite statements;
- incorporating climate risk considerations into existing policy documents, and investment and underwriting procedures;
- undertaking improved due diligence on customers for lending, underwriting and investing;
- integrating climate change considerations into catastrophe models, pricing and engineering tools;
- collecting catastrophe accumulation data;
- developing business continuity plans;
- implementing stress testing and scenario analysis;

- assigning responsibilities to key individuals; and
- producing regular board and management reports on climate-related risks.

The entities that recognised the potential impact of climate change on their business noted the importance of updating business continuity plans. One respondent has extended its risk assessment to its supply chain utilising responsible sourcing processes.

Survey respondents were asked to identify the top five climate-related financial risks to their business (Chart C).

Chart C – Top five climate-related financial risks



Number of respondents who selected each risk among the top five risks relevant to their organisation.

The high focus on reputational risk aligns with entity commentary that communities, customers and investors, as well as regulatory expectations, are driving their response to climate risks.

With regard to the risks identified by each industry, it was observed that:

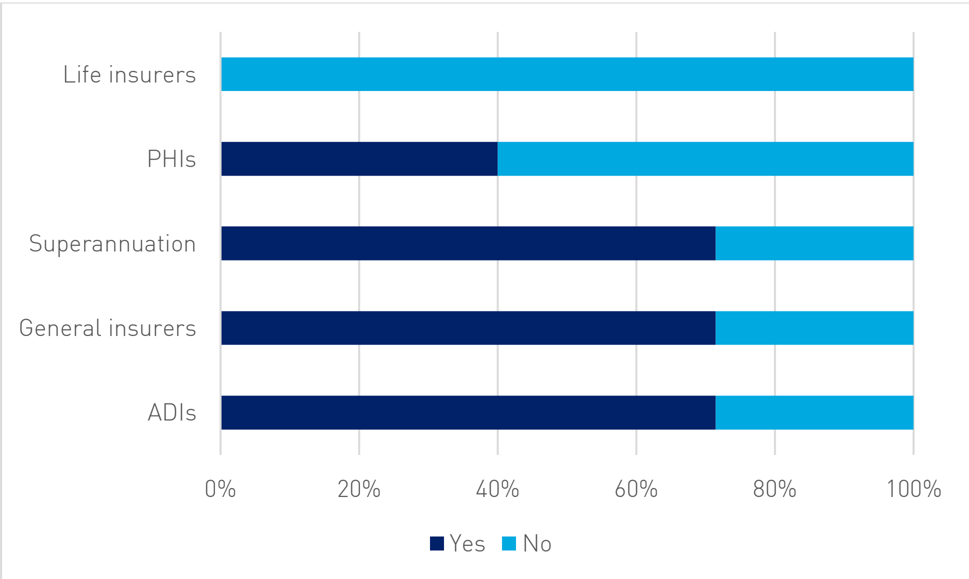
- Four of the seven ADIs surveyed ranked energy risk as their highest climate-related financial risk. One ADI ranked sea level rises as its highest risk. More broadly, most ADIs ranked transition and liability risks higher than physical risks.
- In contrast, general insurers' key risks related to physical risks, with the majority of the general insurers rating flood among their top two risks.
- Three of the five life insurers rated heat stress as their key risk. Regulatory and flood risks were also rated highly as key risks by the life insurers surveyed.
- Three of the five private health insurers rated reputational risk as their major risk, followed by regulatory risk.
- RSE licensees' key risks were focused on liability and transition risks rather than physical risks. Reputational, regulatory, board liability and stranded assets were cited as top risks by different RSE licensees. These focus areas may be influenced by both current

regulatory and policy focus on the superannuation industry as well as exposures to infrastructure investments giving rise to stranded assets risk.

Metrics and targets

Financial analysis of climate risks can include quantitative analysis of climate change scenarios as well as assessment of potential impacts on investment risk and portfolio allocation, insurance and other risks. The survey indicated that financial analysis on key risks is being undertaken by over 50 per cent of respondents, including investment, insurance, credit, operational and strategic risks (Chart D).

Chart D – Organisations undertaking financial analysis

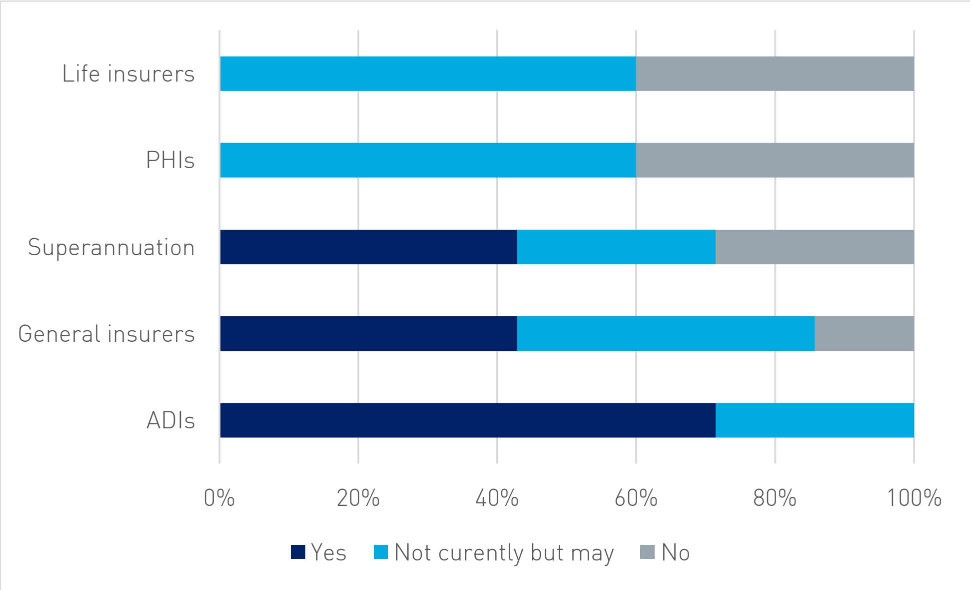


Scenario analysis is a process for identifying and assessing the potential implications of a range of plausible future states under conditions of uncertainty, which may include both quantitative and qualitative assessments of the impacts of climate change risks on an entity's business, strategy as well as financial performance.[2] The key challenges observed in undertaking scenario analysis faced by the entities surveyed include limited availability of data, resource constraints and understanding better practices. Other responses included the lack of standardised terminology, regulatory uncertainty, limitation of scientific understanding, and a lack of tools or a clear approach for financial analysis.

Around one third of respondents indicated that they have undertaken scenario analysis and another 40 per cent are considering undertaking scenario analysis in the future (Chart E). The entities that are not undertaking scenarios analysis typically do not view climate-related risks as being a material risk for their business. Even among entities which reported to be taking steps to better understand climate change financial risks, over half do not believe the impact to be material at present.

[2] Financial Stability Board Task Force on Climate-related Financial Disclosures, *Final Report: Recommendations of the task force on climate-related financial disclosures* (June 2017) p 25 <https://www.fsb-tcfd.org/publications/final-recommendations-report/>.

Chart E – Organisations undertaking scenario analysis



From an industry perspective in relation to metrics and targets, it was observed that:

- Private health insurers have undertaken analysis on investment and portfolio risks.
- RSE licensees have undertaken analysis to aid their investment and portfolio allocation processes. They have also analysed reputational and technology risks.
- General insurers have focused more attention on insurance risks, followed by operational risks.
- ADIs have focused on analysing climate-related financial risks from a credit perspective, followed by policy and legal, and insurance risks.

A number of the entities that are undertaking scenario analysis have been focussing on the recommendations of the TCFD. Other entities are utilising scenario analysis to inform organisational strategies (including contingency planning). Scenario analysis can also help to understand how the Australian economy will look in the future or understand the impact on portfolios from a physical and transitional perspective. Scenario analysis considers short, medium and long-term perspectives.

Entities have been utilising internal quantitative teams or external expertise to undertake scenario analysis and to develop stress testing tools and models. The scenario analysis on climate-related risks are being reported in Internal Capital Adequacy Assessment Process (ICAAP) statements as well as to climate change committees. A survey respondent noted that it would welcome standardisation of scenario analysis.

Disclosure

Accurate and timely disclosure allows regulators and investors to assess whether entities are financially viable, well-governed, compliant with regulations and resilient to the financial impacts of climate change. The recommendations of the TCFD provide a consistent, voluntary disclosure framework that can be used to assist financial markets in understanding material risks.

The extent to which survey respondents are disclosing climate-related financial risks – regardless of the form these disclosures take and whether they are in line with the recommendations of the TCFD – was mixed (Chart F). Disclosures are much more prevalent among ADIs and RSE licensees, with around 70 per cent making climate disclosures. The types of risks disclosed are presented in Chart G.

Chart F – Organisations disclosing climate-related financial risks

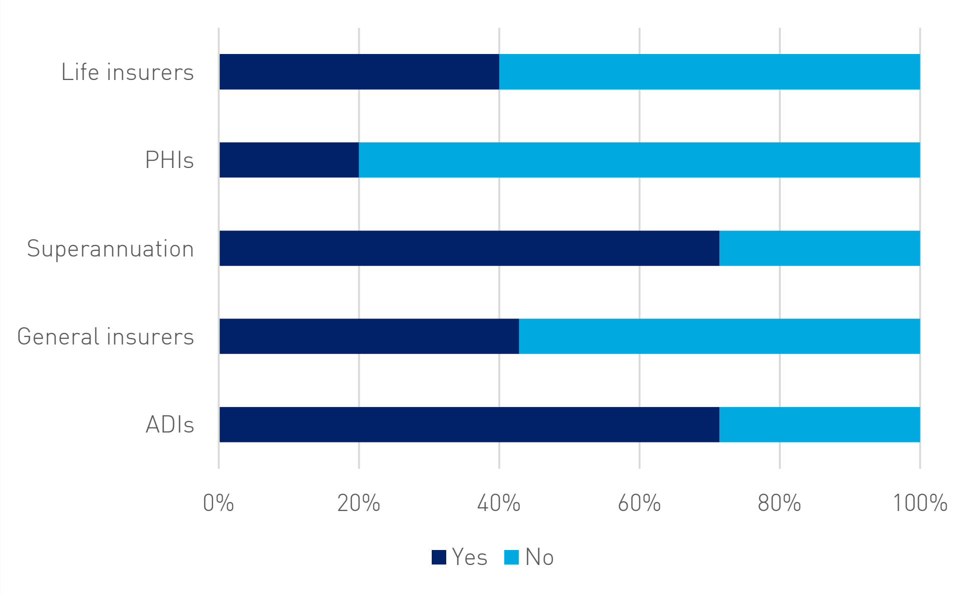
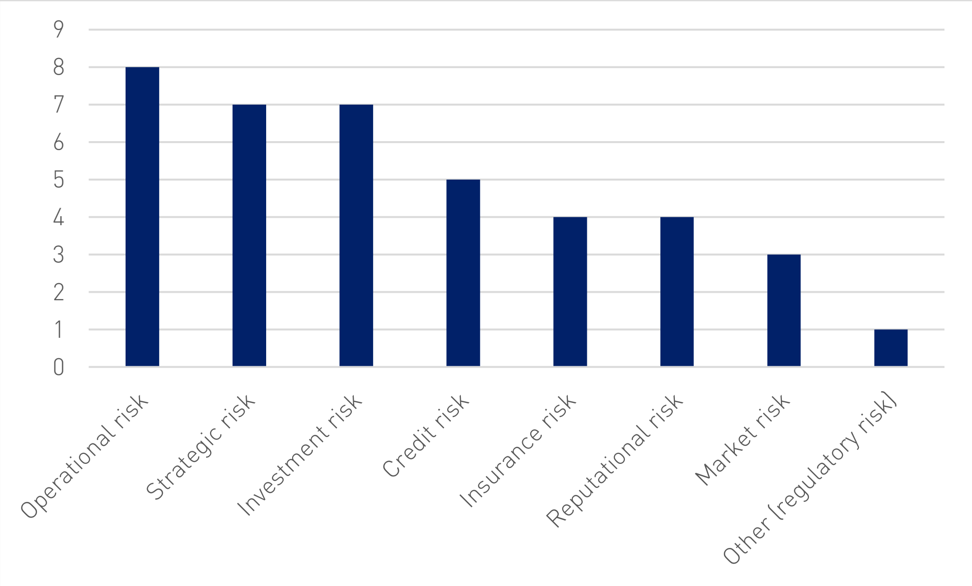


Chart G – Types of climate change risk disclosed



Number of respondents disclosing each type of climate change risk.

Many respondents disclose climate-related financial risks to external stakeholders in multiple reports, including the annual financial report, sustainability reports and investor presentations. Other forms of disclosure include global reporting requirements, external publications, website and other communications to customers.

The TCFD recommendations establish a voluntary framework for disclosing comparable and consistent information about the risks and opportunities presented by climate change. The adoption of TCFD recommendations by the surveyed entities is at early stages. Only seven respondents disclosed climate-related risks as per the TCFD recommendations and 14 additional respondents were planning to disclose in line with the recommendations of the TCFD in the future. This means that a little under half of the organisations surveyed do not intend to disclose utilising the recommendations of the TCFD.

For respondents that had no plans to disclose utilising the TCFD framework, the reasons identified included:

- a lack of opportunity to assess whether the recommendations are appropriate to the organisation;
- assessments that the recommendations are not applicable to their business;
- assessments that other disclosures adequately cover this area;
- resource constraints and data availability; and
- the risk not being viewed as being material.

Conclusion

APRA's survey showed the range of actions that are being undertaken by entities to ensure that they are aware of and equipped to respond to climate change risks. A good level of risk awareness was observed. Most entities indicated that they had taken steps to improve their understanding of the risks, and there was little uncertainty of whether the risks were material to entities' operations.

The governance of climate risks was shown to incorporate a range of approaches, though many respondents identified the board as having ultimate responsibility for the risks. Integration of climate change risks into governance frameworks and decision-making processes can ensure that the risks are well-managed. It is important that boards and executive management teams are well-informed about the risks, and the responsibilities within entities are well-defined.

The importance and variety of the climate change-related opportunities were identified by many entities surveyed. Some qualitative, broad scenario analysis as well as quantitative financial analysis is being undertaken in relation to key risks.

The need for accurate and timely disclosure has been well-defined in a memorandum of opinion titled *Climate Change and Directors' Duties* (the Hutley opinion).[3] APRA's survey indicated that entities are beginning to disclose a variety of risks in many different formats. This fragmented and generalised disclosure can be challenging for consumers, investors and other stakeholders to utilise. APRA expects that disclosure that is specific, comprehensive and considers climate change risks distinctly will progress in the future. APRA notes that the TCFD recommendations provide an established, voluntary framework for this disclosure.

[3] Hutley, N and Hartford-Davis, S, *Climate Change and Directors' Duties*, Memorandum of Opinion (7 October 2016) <https://cpd.org.au/wp-content/uploads/2016/10/Legal-Opinion-on-Climate-Change-and-Directors-Duties.pdf>.

Stocktake: Recent developments

In 2016, APRA considered the risks posed to APRA-regulated entities by a changing climate, and noted the need to promote awareness and understanding of the risks among regulated entities as well as within APRA. This reflected developments such as Australia's commitment to the Paris Agreement in 2016, the G20 Financial Stability Board establishing the TCFD in late 2015, and the Hutley opinion.[4]

The Paris Agreement includes a resolution (at Article 2(1)(a)) that all parties will hold the increase in the global average temperature to 'well below 2 degrees C above pre-industrial levels'.

The TCFD, an industry-led taskforce was established to develop voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders. In June 2017, the TCFD released its *Final report: Recommendations of the task force on climate-related financial disclosures*.[5] This report included the Task Force's recommendations for a voluntary framework that provides a foundation for investors and companies to appropriately assess and price climate-related risk and opportunities.

The Hutley opinion, while not creating any legal obligations itself, expressed the view that climate change risks are capable of representing risks that Australian directors and boards should actively engage with, in order to satisfy their duty of due care and diligence under section 180 of the *Corporations Act 2001*. The Hutley opinion stated (at para. 3.5) that '[i]t is conceivable that directors who fail to consider climate change risks now could be found liable for breaching their duty of care and diligence in the future'.

[4] United Nations Framework Convention on Climate Change (UNFCCC), Twenty-first session of the Conference of the Parties, Paris, France (30 November to 11 December 2015).

[5] Financial Stability Board Task Force on Climate-related Financial Disclosures, *Final Report: Recommendations of the task force on climate-related financial disclosures* (June 2017) <https://www.fsb-tcfd.org/publications/final-recommendations-report/>.

Figure 1 – Regulator and market messages

2016

- Paris Climate Agreement (signed Apr)
- Hutley, N and Hartford-Davis, S, Climate Change and Directors' Duties, Memorandum of Opinion (Oct)

2017

- Geoff Summerhayes, APRA, 'Australia's New Horizon: Climate Change Challenges and Prudential Risk' (Speech delivered at the Insurance Council of Australia Annual Forum, Sydney) (Feb)
- Senate Economics References Committee report Carbon risk: a burning issue (Apr)
- Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD), Final Report: Recommendations of the task force on climate-related financial disclosures (Jun)
- Geoff Summerhayes, APRA, 'The Weight of Money: A Business Case for Climate Risk Resilience' (Speech delivered at the Centre for Policy Development, Sydney) (Nov)
- Council of Financial Regulators Working Group on Financial Implications of Climate Change established (Dec)

2018

- Australian Government response to the Senate Economics Reference Committee report Carbon risk: a burning issue (Mar)
- APRA climate risk survey released (Jun)
- John Price, ASIC, 'Climate Change' (Speech delivered at the Centre for Policy Development, Sydney) (Jun)
- International Association of Insurance Supervisors (IAIS) & Sustainable Insurance Forum (SIF), Issues Paper on Climate Change Risks to the Insurance Sector (Jul)
- RBA join the Central Banks and Supervisors Network for Greening the Financial System (NGFS) (Jul)
- UN Environment Programme Finance Initiative conference, Sydney, Financing a resilient and sustainable economy (Jul)
- ASIC Report 593, Climate risk disclosure by Australia's listed companies (Sep)
- Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD), Status Report 2018 (Sep)
- The Central Banks and Supervisors Network for Greening the Financial System (NGFS), First progress report of the NGFS (Nov)

2019

- Geoff Summerhayes, SIF, 'Financial exposure: Climate data deficit' (Speech delivered at ClimateWise and University of Cambridge Institute for Sustainable Leadership, London) (Feb)
- ASX fourth edition of Corporate Governance Principles and Recommendations released (Feb)
- Guy Debelle, RBA, 'Climate change and the economy' (Speech delivered at the Centre for Policy Development, Sydney) (Mar)

Regulatory developments

In 2016, APRA formally established a thematic supervision priority on climate change financial risks and began to develop supervisory guidance to support and build the capabilities of APRA supervisors in relation to this risk.

APRA has determined that climate change risks should continue to be managed in line with the minimum requirements set by *Prudential Standard CPS 220 Risk Management* (CPS 220) and *Prudential Standard SPS 220 Risk Management* (SPS 220).

APRA's activities aimed at highlighting the financial risks posed to entities include two speeches. The first of these speeches, delivered in February 2017, emphasised to entities that some climate risks are distinctly financial in nature and that many are 'foreseeable, material and actionable now.'[6] The second speech, of November 2017, titled 'The Weight of Money: A Business Case for Climate Risk Resilience', outlined APRA's view and response to this emerging risk.[7]

APRA also chairs the Council of Financial Regulators (CFR) Working Group on Financial Implications of Climate Change, which was established in late 2017. The group provides a forum for APRA, the Australian Securities and Investment Commission (ASIC), the Reserve Bank of Australia (RBA) and the Australian Treasury to consider and coordinate actions to address the implications of the changing climate for the Australian financial system. The working group reports to the CFR, as needed, on international developments, emerging regulatory gaps and risks to the financial system in relation to climate change.

Each of the CFR agencies has undertaken its own body of work to increase understanding of the risks and encourage the appropriate stakeholders to take action to mitigate them.

ASIC has communicated that its key priorities in relation to climate risk are:

- strong and effective corporate governance; and
- disclosure that is meaningful, useful and complies with the law, and promotes the confident and informed participation by investors in the financial system.[8]

[6] Geoff Summerhayes, 'Australia's New Horizon: Climate Change Challenges and Prudential Risk' (Speech delivered at the Insurance Council of Australia Annual Forum, Sydney, 17 February 2017) <https://www.apra.gov.au/media-centre/speeches/australias-new-horizon-climate-change-challenges-and-prudential-risk>.

[7] Geoff Summerhayes, 'The Weight of Money: A Business Case for Climate Risk Resilience' (Speech delivered at the Centre for Policy Development, Sydney, 29 November 2017) <https://www.apra.gov.au/media-centre/speeches/weight-money-business-case-climate-risk-resilience>.

[8] John Price, 'Climate Change' (Speech delivered at the Centre for Policy Development, Sydney, 18 June 2018) <https://asic.gov.au/about-asic/news-centre/speeches/climate-change/>.

ASIC released a report into climate risk disclosure by Australia's listed companies in 2018.[9] The report contained key observations and findings from a surveillance project examining climate risk disclosure by listed companies in Australia. ASIC's recommendations in the report included that directors and officers of listed companies should:

- adopt a probative and proactive approach to emerging risks, including climate risk;
- develop and maintain strong and effective corporate governance;
- comply with the law, including section 299A(1)(c) of the *Corporations Act 2001* that requires disclosure of material business risks affecting future prospects in an Operating and Financial Review, which may include climate change;[10] and
- disclose meaningful and useful information to investors and, where climate risk is material, consider reporting under the TCFD framework.

ASIC, through its membership of the International Organisation of Securities Commissions (IOSCO), is participating in IOSCO's Sustainable Finance Network, a recently established initiative enabling securities regulators to share their experiences and engage in focused discussions about developments in the market and across jurisdictions in relation to the disclosure of ESG matters material to investors' decisions, including the risks and opportunities of climate change.

The RBA has a range of responsibilities where issues relating to climate change are relevant, including monetary policy and financial stability. In 2018, the RBA joined the Central Banks and Supervisors Network for Greening the Financial System (NGFS). The NGFS is designed to facilitate the exchange of experiences, sharing of best practices, contribution to the development of environment and climate risk management in the financial sector and to mobilise mainstream finance to support the transition toward a sustainable economy. The RBA has also been involved in work related to climate change risks through its engagement with the G20. This work includes involvement with the Sustainable Finance Study Group (SFSG) which has focused on identifying institutional and market barriers to green and sustainable finance, and analysed options on how to enhance the ability of the financial system to mobilise private investment to facilitate the transformation of the global economy.

In March 2019, RBA Deputy Governor delivered a keynote speech titled 'Climate Change and the Economy'.[11] The speech highlighted that both the physical impact of climate change and the transition to a less-carbon intensive world are likely to have first-order economic effects, noting that financial stability will be better served by an orderly transition rather than an abrupt, disorderly one.

[9] ASIC Report 593, *Climate risk disclosure by Australia's listed companies* (20 September 2018) <https://asic.gov.au/regulatory-resources/find-a-document/reports/rep-593-climate-risk-disclosure-by-australia-s-listed-companies/>.

[10] See ASIC Regulatory Guide 247, *Effective disclosure in an operating and financial review* (4 March 2013) <https://asic.gov.au/regulatory-resources/find-a-document/regulatory-guides/rg-247-effective-disclosure-in-an-operating-and-financial-review/>.

[11] Guy Debelle, 'Climate Change and the Economy' (Speech delivered at the Centre for Policy Development, Sydney, 12 March 2019) <https://www.rba.gov.au/speeches/2019/sp-dg-2019-03-12.html>.

Industry developments

Industry leadership and engagement will be critical in developing innovative options that industry and regulators can draw upon in their efforts to better understand and address climate-related financial risks.

In July 2018, representatives of over 300 organisations from the financial services sector convened, with the support of the United Nations Environment Programme Finance Initiative (UNEP FI), to explore the development of a roadmap for sustainable finance in Australia. The roadmap is intended to support a resilient and sustainable economy and help achieve regional, national and global goals on sustainable development. APRA is an observer member of the steering committee that will oversee the development of the roadmap over 2019.

Two Australian banks are involved in the UNEP FI's pilot group of 16 banks working on implementing the recommendations set out by the TCFD. The project aims to develop scenarios, models and metrics to enable scenario-based, forward-looking assessment and disclosure of climate-related risks and opportunities.[12] This group reported in 2018 on both the jointly developed methodology for scenario-based assessment of the transition-related risk and opportunities, and physical risk assessment methodologies. The participants are expected to publish an initial TCFD disclosure report by mid-2019.

A similar pilot project for insurance companies' implementation of the TCFD recommendations will include two large Australian insurers among global leading insurers.[13] The insurance group partnership aims to develop risk assessment tools designed to enable the insurance industry to better understand the impacts of climate change on their businesses.

The fourth edition of the ASX Corporate Governance Principles and Recommendations, released in February 2019, encourages Australian listed entities to consider whether they have a material exposure to climate change risk by reference to the recommendations of the TCFD and, if they do, to consider making the disclosures recommended by the TCFD.[14]

[12] United Nations Environment Programme Finance Initiative, *Pilot Project on Implementing the TCFD Recommendations for Banks,* <http://www.unepfi.org/banking/tcfd/>.

[13] United Nations Environment Programme Finance Initiative, *UN Environment convenes world's insurers to assess intensifying climate change impacts in bid to protect communities and economies* (Media release, 13 November 2018) <https://www.unenvironment.org/news-and-stories/press-release/un-environment-convenes-worlds-insurers-assess-intensifying-climate>.

[14] ASX Corporate Governance Council, *Corporate Governance Principles and Recommendations* (4th Edition 2019), Recommendation 7.4 <https://www.asx.com.au/documents/asx-compliance/cgc-principles-and-recommendations-fourth-edn.pdf>.

International activity

Sustainable Insurance Forum and International Association of Insurance Supervisors

APRA has increased its engagement with international organisations that coordinate the regulatory response to climate change risks. In February 2018, APRA Member Geoff Summerhayes was elected Chair of the United Nations Environment's Sustainable Insurance Forum (SIF), a network of global regulators seeking to strengthen their understanding of sustainability issues for the insurance sector. The SIF membership has been broadened and its influence on supervisors and the entities they supervise can be seen in over 20 jurisdictions.

In addition, APRA continues to be heavily engaged with the International Association of Insurance Supervisors (IAIS), the global standard setting organisation composed of insurance supervisors and regulators from more than 200 jurisdictions in nearly 140 countries.

A partnership between the SIF and IAIS to explore the risks that climate change poses to the insurance sector led to the development of an *Issues Paper on Climate Change Risks to the Insurance Sector*, published in mid-2018.[15] The paper aims to raise awareness for insurers and supervisors of the challenges presented by climate change. Case studies of supervisory agencies, including APRA, were set out in the paper, to inform supervisory bodies around the world when designing and implementing their own responses to these risks. The release of this Issues Paper represents the first effort by an international financial standard setting body to assess how climate change risks may affect financial institutions.

The SIF-IAIS partnership has been renewed with a mandate to implement a 'question bank', which provides examples of questions and answers for facilitating supervisory discussions on climate change, into the mainstream supervision of member jurisdictions and to implement the recommendations and guidance of the TCFD. The SIF and IAIS will develop a further Issues Paper in 2019, focusing on best practices for implementation of the recommendations of the TCFD, and the role of supervisors in supporting adoption.[16] These priorities, as well as the need for disclosure to close the climate data deficit, were highlighted in a speech by the SIF Chair in February 2019.[17]

[15] International Association of Insurance Supervisors & Sustainable Insurance Forum, *Issues Paper on Climate Change Risks to the Insurance Sector* (Issues Paper, July 2018) <https://www.iaisweb.org/page/supervisory-material/issues-papers/file/76026/sif-iais-issues-paper-on-climate-changes-risk>.

[16] Sustainable Insurance Forum, *Insurance supervisors from 18 jurisdictions set out next steps to address climate change risks in 2019* (Media release, 19 November 2018) <https://www.sustainableinsuranceforum.org/supervisors-take-steps>.

[17] Geoff Summerhayes, 'Financial Exposure: Climate Data Deficit' (Speech delivered at ClimateWise and University of Cambridge Institute for Sustainable Leadership, London, 22 February 2019) <https://www.cisl.cam.ac.uk/news/news-pdfs-or-prs/financial-exposure-geoff-summerhayes.pdf>

Task Force for Climate-related Financial Disclosure

The TCFD released a Status Report in September 2018.[18] The Status Report noted that companies that invest in activities susceptible to climate-related risks may be less resilient to the transition to a low-carbon economy and their investors may experience lower returns. Conversely, companies that are appropriately prepared for this transition may have a competitive advantage over others. Investors therefore need to be aware of companies' longer-term strategies for this transition, and thus require adequate disclosure of information.

The TCFD provided in its Status Report an overview of current disclosure practices related to its recommendations. The Status Report found that the majority of companies reviewed disclosed some climate-related information, though few disclosed the financial impact of climate change on the company or the company's resilience strategies under different climate-related scenarios.

The TCFD recognises that climate-related disclosure is still in its early stages. This is consistent with the Task Force's staged implementation anticipated in its recommendations in 2017, and is likely to improve as companies further understand their exposure to climate-related risks and opportunities and their reporting capabilities. The TCFD will prepare a second Status Report in 2019.

Network for Greening the Financial System

The NGFS represents central banks and supervisors – including the RBA and the Reserve Bank of New Zealand – as well as other international organisations willing to contribute to the analysis and management of climate and environment-related risks in the financial sector. The NGFS published its first progress report in 2018.[19] The report provided, among other things, that:

- NGFS members acknowledged that climate change risks are a source of financial risk;
- authorities and financial institutions need to develop new analytical and supervisory approaches based on forward-looking scenario analysis; and
- central banks and supervisors are deepening their understanding of the risks and are taking action to support the scaling up of green finance.

APRA maintains an observer position within the NGFS.

[18] Financial Stability Board Task Force on Climate-related Financial Disclosures, *2018 Status Report* (September 2018) <https://www.fsb-tcfd.org/publications/tcfd-2018-status-report/>.

[19] Network for Greening the Financial System, *Progress Report* (10 November 2018) <https://www.banque-france.fr/en/communique-de-presse/publication-first-ngfs-progress-report>.

Next steps

Following the series of activities undertaken to increase the awareness and understanding of climate change risks, and with appreciation of the action being undertaken by entities, APRA will be taking steps to enhance its supervisory approach.

Prudential supervision of entities' responses to their climate change risks will continue to rely on the existing prudential framework of CPS 220 and SPS 220. As such, APRA does not have short-term plans to issue additional prudential standards prescribing minimum expectations specific to the management of climate change risks.

APRA will be embedding the assessment of climate risk into its ongoing supervisory activities. This will be done by increasing the intensity of its supervisory activities to assess the effectiveness of risk identification, measurement and mitigation strategies adopted by APRA-regulated entities. Such assessments will ensure that APRA's iterative approach to the supervision of the risks is proportionate to the continuous developments in policies and practices of regulated entities. APRA will consider the need for further surveys to monitor the progress that entities are making in this area.

APRA expects to observe a continuous improvement in the sophistication of entities' management of climate change risks and preparations for the transition to a low-carbon economy, including the increased in adoption of the recommendations of the TCFD.

APRA will continue its support of industry-led responses to climate change risks and the transition to a sustainable economy. APRA's status as an observer member of the steering committing overseeing the development of a sustainable finance roadmap for Australia will involve supporting industry and stakeholders such as the UNEP FI, the Investor Group on Climate Change and Responsible Investment Association Australasia.

Coordination among domestic regulatory peers will continue through the CFR Working Group on Financial Implications of Climate Change. Through this working group, regulators will continue to share information and analysis, and expand their industry outreach, including through forums that bring together industry, experts and regulators. These efforts will support the development of analytical tools and techniques to facilitate quantitative analysis and promote innovation with respect to managing climate risks, as well as ensuring a coordinated approach to the regulation of these risks.

Involvement with organisations such as the SIF and IAIS will allow APRA to influence international policy development and represent its Oceanic regulatory peers. This international engagement will also allow APRA to present its findings on emerging good practices to the wider community, continue to monitor the progress of other jurisdictions taking action on climate-related risks and make effective use of their experiences domestically.

Attachment A – APRA's climate change survey questions

APRA's climate change financial risks survey
Is your organisation taking steps to improve its understanding of climate change financial risks? [Select one: Yes; No]
Does your organisation consider climate-related financial risks to be, or have the potential to be, a material financial risk impacting on your business? [Select one: Yes, it is material now; Not material now, but may be in the future; Unsure; No]
What is your organisation's approach to managing climate-related financial risks? Please provide details including who is responsible for climate change risk management within your organisation and its consideration within the risk management framework. [Free text]
Over what time horizon are climate-related financial risk considerations contemplated within your risk management strategies? [Select all that apply: 0-2 year horizon; 2-4 horizon; 4+ years; Climate change risk is not formally considered within risk management strategies]
Has your organisation's consideration of climate change risk been influenced by: [Select all that apply: Investor expectations; Customer expectations; Community expectations; Regulatory requirements; Other (please specify)]
Has your organisation considered climate-related opportunities that may exist or emerge in the future? [Select one: Yes; No] What were the opportunities that you identified? [Free text]
From the list select your organisation's top five climate-related financial risks: [Select five: Physical risk (heat stress); Physical risk (flood); Physical risk (bushfires); Physical risk (sea level rise); Physical risk (cyclone); Board liability risk; Regulatory risk; Reputation risk; Political risk; Transition risk (energy); Transition risk (transportation); Transition risk (stranded assets); Transition risk (agriculture); Are there other risks not on this list?]
Has your organisation undertaken financial analysis to assess the impact of these climate-related financial risks? [Select one: Yes; No]
Which areas have the financial impact of climate change been analysed? [Select all that apply: Investment strategy; Portfolio allocation; Insurance risk; Credit risk; Market risk; Liquidity risk; Operational risk; Technology risk; Policy and legal risk; Strategic risk; Reputation risk; Other (please specify)]
What were the key challenges involved in undertaking the financial analysis? [Select all that apply: Limited availability and/or access to climate risk data; Understanding best practice in this area;

APRA's climate change financial risks survey
Availability of skillsets and resources in this area; Taxonomy/risk terminology; Regulatory barriers; Resource constraints; Other (please specify)] Are you undertaking scenario analysis to assess the financial impact of climate change? [Select one: Yes; No; Not currently, but our organisation is considering using scenario analysis in the future]
Do you anticipate to be undertaking scenario analysis within: [Select one: 0-2 years; 3-5 years; Still to be determined] Is your organisation disclosing climate-related financial risks? [Select one: Yes; No]
What form does this reporting take? [Select all that apply: Sustainability report; Annual financial report; Investor presentations; Internal management reports; Other (please specify)]
What are the key risk metrics being reported on? [Select all that apply: Credit risk; Insurance risk; Market risk; Investment risk; Operational risk; Strategic risk; Reputation risk; Other (please specify)]
Does your organisation plan to disclose based on the recommended, voluntary framework proposed by the Financial Stability Board Task Force for Climate-Related Financial Disclosures (TCFD)? [Select one: Yes, we already disclose using the TCFD recommendations; Yes, we plan to disclose using the TCFD recommendations in the future; We have no plans, at this time, to report using the TCFD recommendations]
Within what timeframe do you anticipate reporting using the TCFD recommendations? [Select one: 0-2 years; 3-5 years; Other (please specify)]
Why are you not planning to use the TCFD recommendations? [Select all that apply: Do not feel they are applicable to our organisation; Have not had the opportunity to assess whether they are appropriate to our organisation; Consider that other disclosures our organisation makes adequately cover this area; Do not have all the available data; Resource constraints; Other (please specify)]
Please provide any other information you wish to share with APRA regarding your approach to managing climate-related financial risks. [Free text]

Attachment B – Extract of aggregated answers

Entities surveyed (38)	Yes	No	Unclear
Is your organisation taking steps to improve its understanding of climate change financial risks?	33	5	0
Does your organisation consider climate-related risks to be material or have potential to be material?	34	2	2
Has your organisation considered climate-related opportunities that may exist or emerge in the future?	26	12	0

Entities surveyed (38)	Yes	No	Not currently but may
Has your organisation undertaken financial analysis in relation to climate-related financial risks?	22	16	0
Has your organisation undertaken scenario analysis in relation to climate-related financial risks?	14	8	16
Is your organisation disclosing climate-related financial risks?	19	19	0
Does your organisation disclose climate-related financial risks based on TCFD recommendations?	7	17	14

AUSTRALIA

APRA