

Climate change risk: ASFA Discussion Paper

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ASFA is a non-profit, non-political national organisation whose mission is to continuously improve the superannuation system, so all Australians can enjoy a comfortable and dignified retirement. We focus on the issues that affect the entire Australian superannuation system and its \$3.3 trillion in retirement savings.

Our membership is across all parts of the industry, including corporate, public sector, industry and retail superannuation funds, and associated service providers, representing over 90 per cent of the 17 million Australians with superannuation.

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Executive Summary

The risk of climate change has been identified by both market participants and regulators, internationally and domestically, as having a demonstrable impact on portfolio performance. This discussion paper explores the reasons climate change risk is a necessary consideration for superannuation funds when making decisions and the mitigation strategies superannuation funds can use to address climate change risk.

Mitigation strategies include making the commitment to reach net zero greenhouse gas emissions in their investment portfolio by 2050, engaging with businesses on climate change risk and adopting the approach recommended by the Principles of Responsible Investment.

This paper poses questions to readers for feedback that will influence ASFA's views on key issues relating to climate change risk. We are seeking feedback by COB Friday 15 October 2021. Comments should be sent to Helena Gibson at hgibson@superannuation.asn.au.

We would also like to recognise the significant contribution of the ASFA ESG Working Group to developing this discussion paper.

Climate change risk & superannuation

Have Australian regulators been clear enough in their expectations of organisations when dealing with climate change risk?

Australian regulators recognise the significance of climate change risk to Australian organisations including superannuation funds. The Australian Prudential Regulation Authority (APRA) recently released draft guidance on managing the financial risks of climate change.¹ APRA notes, in its draft guidance, that the 'risks of a changing climate extend to all sectors of the economy' and the financial sector should 'consider both the opportunities and the financial risks of climate change as it sets its strategy'.

The Australian Securities and Investment Commission (ASIC) has made a number of changes to its regulatory guidance to reflect how climate change should be considered by Australian business.² It has noted that 'climate change is a systemic risk that could have a material impact on the future financial position, performance or prospects of entities'.³ They have provided four recommendations for Boards to consider in relation to climate change risk management and its disclosure:⁴

1. Ensure climate risk has been factored into their decision-making process
2. Develop and maintain strong and effective corporate governance to assess, manage and disclose climate risk change risks and opportunities
3. Comply with legislative requirements to disclose materially significant climate-related information
4. Disclose material exposure to climate risk as per the framework on Climate-Related Financial Disclosures (TCFD).

1 APRA, *Draft Prudential Practice Guide CPG 229 Climate Change Financial Risks*

2 See, for example, Regulatory Guide 228 Prospectuses: Effective disclosure for retail investors and Regulatory Guide 247 Effective disclosure in an operating and financial review

3 ASIC, RG 247 Effective disclosure in an operating and financial review, RG 247.66

4 ASIC, Commissioner Cathie Armour, 'Managing climate risk for directors' <https://asic.gov.au/about-asic/news-centre/articles/managing-climate-risk-for-directors/>

The Reserve Bank of Australia (RBA) Board has discussed the implications of climate change as part of their monthly Monetary Policy Meeting.⁵ The RBA Board has noted that 'central banks and financial regulators had been actively accounting for climate-related risks in carrying out their policy and regulatory responsibilities'. The RBA Board has also noted that the global 'management and regulation climate-related risk had become increasingly prominent in the asset allocation decisions of international investors'.

A superannuation fund is responsible for ensuring a member's retirement savings are invested in accordance with their investment strategy and to this end consideration of the risk climate change presents is particularly important as it can have a measurable impact on portfolio performance. A fund should consider how climate change risks could impact their investment strategy within the broader operating environment.

The Intergovernmental Panel on Climate Change (IPCC), in its research, has shown that 'each of the last four decades has been successively warmer than any decade that preceded it since 1850'. The change in global temperatures is likely to lead, and has already led, to an increase in the incidence of extreme climate events globally. Examples of extreme climate events include droughts, floods, cyclones and monsoons. The IPCC's models project that, over a range of five scenarios, future global temperatures can increase between 1°C to 8.5°C. The two scenarios which predict the lowest temperature range increase (1°C to 2.6°C) requires CO2 emission levels to decline to net zero around 2050, followed by net negative CO2 emissions. The cause of the world's temperatures rising, as observed by the IPCC, has been driven by emissions from human activities.⁶

Changes to the world's climate system have a direct economic impact through physical and transition risks. Physical risks are changes in the weather that could impact the economy. This could include, for example, damage to property, disruption because of climate events and lost productivity because of increased temperatures. Some examples of where physical risks have impacted businesses and/or economies worldwide include:

- the damages and losses from Thailand's 2011 floods, caused by excessive rainfall from successive monsoons and dam breaches amounted to USD\$46.5 billion. It is estimated that the private sector absorbed 90% of the damage and losses⁷
- the 2011 Texas heatwave, caused by drought and ocean temperatures⁸, negatively affected Constellation Energy's (an energy company) operating results by approximately USD\$33 million after-tax because of the need to purchase replacement power at increased spot prices⁹

5 June 2021 meeting

6 IPCC, Climate Change 2021: The Physical Science Basis, August 2021

7 World Bank (2012), 'Thai Flood 2011: Rapid Assessment for Resilient Recovery and Reconstruction Planning', World Bank, Bangkok <https://openknowledge.worldbank.org/handle/10986/26862>

8 National Oceanic & Atmospheric Administration, Research News, November 15 2012 <https://research.noaa.gov/article/ArtMID/587/ArticleID/1446/Texas-heat-wave-of-2011-largely-caused-by-drought-ocean-temperatures-says-NOAA-led-study>

9 US Energy Information Administration, September 9 2011, Today in Energy, <https://www.eia.gov/todayinenergy/detail.php?id=3010> & United States Securities and Exchange Commission, Constellation Energy Group, Inc. Annual Report for fiscal year ended Dec 31 2011 <https://www.sec.gov/Archives/edgar/data/9466/000104746912001863/a2207433z10-k.htm>

- insurance losses from Hurricane Sandy in New York in 2012, resulting in an estimated USD\$19 billion in damages and lost economic activity across New York City¹⁰, and were estimated to be 30% higher because of the 20cm rise in sea level at the tip of Manhattan.¹¹

Transition risks come from the transition to a low-carbon economy. This includes changes to policies and regulation and how communities use resources and technology.

The RBA is aware of the increasing risks caused by climate factors stating that ‘it is difficult to map the impacts of climate change to changes in asset values and financial losses. The risks from climate change are particularly difficult to assess because of their long-term nature and complexity. These risks involve a great deal of uncertainty due to unknown future policy responses and the possibility that feedback loops and tipping points may lead to greater and more rapid physical impacts than is currently expected’.¹²

Australian superannuation funds are significantly exposed to economic variations both domestically and internationally. A clear example is the impact the COVID-19 pandemic has had on the economy and, more directly, on superannuation fund assets. Global output contracted by 3.5% in 2020 as a result of the COVID-19 pandemic and Australia recorded a GDP fall of 2.5% in 2020.¹³ All of this led to a \$258.4 billion contraction of superannuation assets in the March quarter of 2020, however superannuation assets had increased by \$130.2 billion by the end of 2020.¹⁴

It is estimated that close to 10% of total economic value could be lost by 2050 if climate change continues its current trajectory.¹⁵ As custodians of Australians’ retirement savings it is imperative that superannuation funds provide adequate consideration to the mitigation of climate change risks.

10 NYC Community Development Block Grant Disaster Recovery, <https://www1.nyc.gov/site/cdbgdr/about/About%20Hurricane%20Sandy.page>

11 Bank of England, ‘Climate change: what are the risks to financial stability?’ <https://www.bankofengland.co.uk/knowledgebank/climate-change-what-are-the-risks-to-financial-stability>

12 RBA Financial Stability Review – October 2019, <https://www.rba.gov.au/publications/fsr/2019/oct/box-c-financial-stability-risks-from-climate-change.html>

13 OECD Economic Outlook, Volume 2021 Issue 1 https://www.oecd-ilibrary.org/sites/edfbca02-en/index.html?itemId=/content/publication/edfbca02-en&_ga=2.112164813.819090845.1628644434-148574863.1628244309

14 ABS, Impacts of COVID-19 on superannuation funds, 24/09/2020 <https://www.abs.gov.au/articles/impacts-covid-19-superannuation-funds>

15 Swiss Re Institute, ‘The economics of climate change: no action not an option’, April 2021

The amount in superannuation assets at the end of the March 2021 quarter totalled \$3.1 trillion. Over the 12 months from March 2020 there was a 3.1 per cent increase in total superannuation assets. Of the assets held by APRA-regulated superannuation funds:

- \$467 billion was invested in Australian listed shares
- \$159 billion was invested in listed and unlisted property
- \$551 billion was invested in international shares
- \$119 billion was invested in infrastructure.¹⁶

Given the diversity of assets held by superannuation funds, the overall exposure to climate change risk is significant. For example, S&P Global estimates that 66% of major global companies have at least one asset that has physical climate change risk and up to 13% earnings at risk (by 2025) under a high carbon price scenario.¹⁷ It should be highlighted that superannuation funds are prudentially required to 'have systems for identifying, assessing, managing, mitigating and monitoring material risks that may affect its ability to meet its obligations to beneficiaries'.¹⁸

Australians more broadly are increasingly aware of the risks emanating from climate change. A Climate Poll conducted by the Lowy Institute in 2021 showed that concern for climate change has increased for Australians. The Lowy Institute Climate Poll showed that six in ten Australians (60%) said that 'global warming is a serious and pressing problem' and eight in ten Australians (78%) support 'setting a net-zero emissions target for 2050'.¹⁹

It is important to remember that superannuation is Australia's primary retirement saving vehicle and by its very nature requires consideration of investment time horizons in decades. It is Australian households' largest financial asset, and for most households it represents the largest asset aside from the family home.²⁰ Any major movements in the economy and asset prices are likely to have a significant impact on Australian households. Climate change risk can have a real and lasting impact on superannuation asset values and, therefore, Australian retirement savings.

16 <https://www.superannuation.asn.au/resources/superannuation-statistics>

17 S&P Global, <https://www.spglobal.com/esg/education/essential-sustainability/climate/transition-risks> & <https://www.spglobal.com/esg/education/essential-sustainability/climate/physical-risks>

18 APRA, Prudential Standard SPS 220 Risk Management

19 Lowy Institute Climate Poll 2021, <https://www.lowyinstitute.org/publications/climatepoll-2021>

20 Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry, Background Paper 22: Consumer Interactions with the Superannuation Industry, Commonwealth of Australia, 2018

Net-zero emissions commitment

Do you support an objective of the superannuation industry being accountable for net zero emissions by 2050 (in terms of their investments)?

Is that ambitious enough – should we be aiming for 2040?

How does the best financial interests duty interact with the net-zero emissions commitment?

Would you support the disclosure of progress towards net-zero emissions by 2050 through a superannuation fund's portfolio holdings disclosure obligations? If so, is a materiality threshold required?

Given the significant climate change risks superannuation funds currently face, many superannuation funds have implemented climate risk mitigation and management strategies for their investments. One risk management strategy some superannuation funds have undertaken is to make a commitment to reach net zero greenhouse gas emissions in their investment portfolio by 2050. This means the gradual reduction of overall emissions contained in an investment portfolio towards net zero greenhouse gas emissions by 2050, requiring superannuation funds to 'decarbonise' and transition to investments in low-carbon business models.²¹

The net-zero emissions commitment is one that is gaining momentum globally. It is expected that, by the end of 2021, countries that represent more than 65% of global carbon dioxide emissions and more than 70% of the world economy would have made commitments to carbon neutrality.²² The International Energy Agency estimates that the number of countries that have made the commitment to net-zero emissions by 2050 covers 70% of all global emissions of CO₂.²³

21 UN Environment Programme Financial Initiative, The Net-Zero Asset Owner Alliance, FAQ, https://www.unepfi.org/wordpress/wp-content/uploads/2019/09/AOA_FAQ.pdf

22 UN News, 2 December 2020, 'The race to zero emissions, and why the world depends on it' <https://news.un.org/en/story/2020/12/1078612>

23 International Energy Agency, <https://www.iea.org/reports/net-zero-by-2050>

The transition to a low carbon investment portfolio over decades helps prevent the creation of financial stability risks. The substantial size of the superannuation industry has the potential to have a systemic impact on the Australian economy. For example, the RBA notes that if superannuation funds had to sell assets on a large scale, 'it could amplify asset price declines during periods of stress'.²⁴ An orderly transition will help ensure market impacts are not as volatile.

The net-zero emission commitment does not, necessarily, require the divestment of assets. The divestment of asset holdings in a particular sector or industry can unnecessarily place limitations on potential investments that can be considered by a superannuation fund, though it is usually used when a business is not open to engagement.²⁵ Generally, an engagement approach is preferred when 'decarbonising' an investment portfolio. Engagement through discussion and consultation provides investors with opportunities to make their views and concerns known about the actions or direction of the business they are invested in. It is also the preferred approach by UN's Net-Zero Asset Owner Alliance.

It is important to note that the way in which superannuation funds meet their net-zero emissions commitment is unique to each superannuation fund. The transition to investing in low-carbon business models could involve, for example, increasing investment in renewable energy. In 2019, US\$282.2 billion was globally invested in renewable energy, with more investment going into renewable energy sources than fossil fuel and nuclear technologies.²⁶ In Australia 21% of electricity generation came from renewables in 2019, with renewable energy consumption growing by 5% in 2018-19.²⁷ Over the long term, the transition to renewable energy is expected to continue.²⁸

24 RBA, Financial Stability Review April 2021, Box C: What Did 2020 Reveal About Liquidity Challenges Facing Superannuation Funds?, <https://www.rba.gov.au/publications/fsr/2021/apr/box-c-what-did-2020-reveal-about-liquidity-challenges-facing-superannuation-funds.html>

25 Wagemans, F., van Koppen, K. & Mol, A. (2018) 'Engagement on ESG issues by Dutch pension funds: is it reaching its full potential?', *Journal of Sustainable Finance & Investment*, Vol. 8, No. 4, pp. 301-322

26 World Economic Forum, <https://www.weforum.org/agenda/2020/06/global-clean-energy-investment-research/>

27 Australian Energy Statistics 2020 Energy Update Report https://www.energy.gov.au/sites/default/files/Australian%20Energy%20Statistics%202020%20Energy%20Update%20Report_0.pdf

28 RBA Bulletin, March 2020, Renewable Energy Investment in Australia

What role will products such as green bonds play in meeting the net-zero emissions commitment?

What other products need to be created to achieve the net-zero emissions commitment?

Superannuation funds could also meet their net-zero emissions commitment through the purchase of green bonds. Green bonds are used to finance new and existing projects that offer climate change and environmental benefits. The first green bond was issued by the European Investment Bank in 2007 and is now expected to surpass \$1 trillion in 2021.²⁹ The use of green bonds provides a reliable indicator that environmental and climate outcomes have been considered. The Australian green bond market has issued approximately \$15.6 billion in green bonds, ranking Australian 10th globally.³⁰

The net-zero emission commitment has the potential to deliver higher investment growth and creates investment opportunities for superannuation funds. The OECD reports that transitioning economies towards lower greenhouse gas emissions and higher resilience to the effects of climate change results in increases in economic growth of approximately 2.8%, on average, across G20 countries in 2050.³¹ The renewables sub-sector could see average annual returns increase by between 6% and 54% between 2015 and 2050 (or between 4% and 97% over a 10-year period).³²

Morgan Stanley Institute for Sustainable Investing analysed more than 3,000 US mutual funds and ETFs and found that sustainable equity funds outperformed non-ESG peer funds by a median total return of 4.3 percent in 2020.³³ Morningstar has also observed that of the 20 equity indexes that form part of Morningstar's Global Sustainability Index, sixteen have outperformed their non-ESG equivalent over their lifespan.³⁴

29 Reuters, 'Global sustainable debt issuance will crack \$1 trillion mark in 2021' <https://www.reuters.com/business/sustainable-business/global-sustainable-debt-issuance-will-crack-1-billion-mark-2021-iiif-2021-07-15/>

30 Climate Bonds Initiative, <https://www.climatebonds.net/resources/reports/australia-green-finance-state-market-2019>

31 OECD (2017), *Investing in Climate, Investing in Growth*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264273528-en>

32 Mercer (2015), 'Investing in a time of Climate Change' <https://www.mercer.com.au/what-we-do/campaigns/investing-in-a-time-of-climate-change.html>

33 Morgan Stanley, 'Sustainable Funds Outperform Peers in 2020 During Coronavirus' <https://www.morganstanley.com/ideas/esg-funds-outperform-peers-coronavirus>

34 Morningstar, March 2018, 'Does Investing Sustainably Mean Sacrificing Return?' <https://www.morningstar.com/lp/does-investing-sustainably-mean-sacrificing-return>

The Clean Energy Finance Corporation (CEFC) has invested more than \$150 million in natural capital opportunities, representing about 2 per cent of their investment portfolio. This includes investment in areas such as energy efficiency initiatives, sustainable agriculture production, agritech and initiatives encouraging soil carbon and soil sequestration. CEFC views natural capital as an important asset class with high potential for growth in future.

It is evident that climate change risk is having a significant impact on economies around the world and will continue to do so into the future.³⁵ The commitment to net-zero emissions by 2050 is one of many ways the superannuation industry is currently tackling climate change risk. Superannuation funds will need to continue to adapt and find new opportunities in economies that are increasingly turning to low-carbon models of operating.

35 OECD, Cost of Inaction and Resource scarcity: Consequences for Long-term Economic growth – Policy perspective, <https://www.oecd.org/environment/waste/circle.htm>

Engagement with business

What other methods could superannuation funds use to reduce their exposure to climate change risk?

At what point should superannuation funds begin to engage businesses they are invested in for best results?

The commitment to reach net zero greenhouse gas emissions in an investment portfolio by 2050 is a climate change risk management strategy being undertaken by superannuation funds, a strategy which can be enhanced by increased engagement with businesses. Superannuation funds in their capacity as investors, are in a good position to identify emerging climate change risk, knowledge that can be readily shared with businesses with the aim of improving the business's approach to climate change risk. Engagement is also not just about identifying shortcomings – it is also an opportunity to foster best practice. It provides businesses with opportunities to learn from investors (and vice versa).³⁶

Research has shown that engagement and shareholder voting can improve a business's environmental performance.³⁷ Superannuation funds, through engagement and voting as shareholders, can move businesses towards 'decarbonising' with the purpose of decreasing their exposure to climate change risk. It can also be part of a superannuation fund's strategy in ensuring it meets its commitment to reach net zero greenhouse gas emissions in an investment portfolio by 2050.

36 UNPRI (2018) 'How ESG engagement creates value for investors and companies' <https://www.unpri.org/download?ac=4637>

37 Lee, M.-D.P., and M. Lounsbury. 2011. Domesticating Radical Rant and Rage: An Exploration of the Consequences of Environmental Shareholder Resolutions on Corporate Environmental Performance. *Business and Society* 50 (1): 155–188 & Mercereau, B., Neveux, G., Sertā, J.P.C.C. *et al.* Fighting climate change as a global equity investor. *J Asset Manag* 21, 70–83 (2020)

Principles of Responsible Investment (PRI)

Have superannuation funds already begun implementing PRI's recommended three-step approach?

Does PRI's three-step approach support or stand in the way of regulators' expectations of superannuation funds in relation to climate change risk?

The PRI, which is supported by the United Nations and over 4,000 global signatories (including several Australian superannuation funds), recommends a three-step approach for asset owners when responding to climate change risk.³⁸ The three-step approach is:

1. Incorporating ESG issues into investment analysis and decision-making processes

How asset owners such as superannuation funds approach this step is through developing appropriate tools, metrics and analysis; addressing climate change risk in investment policies; and assessing the capabilities of investment managers in incorporating climate change risk.

2. Being active owners and incorporating ESG issues into ownership policies and practices

Superannuation funds, in implementing this step, could exercise voting rights; develop engagement capability; participate in development of policy; and file shareholder resolutions consistent with long-term climate change risk considerations.

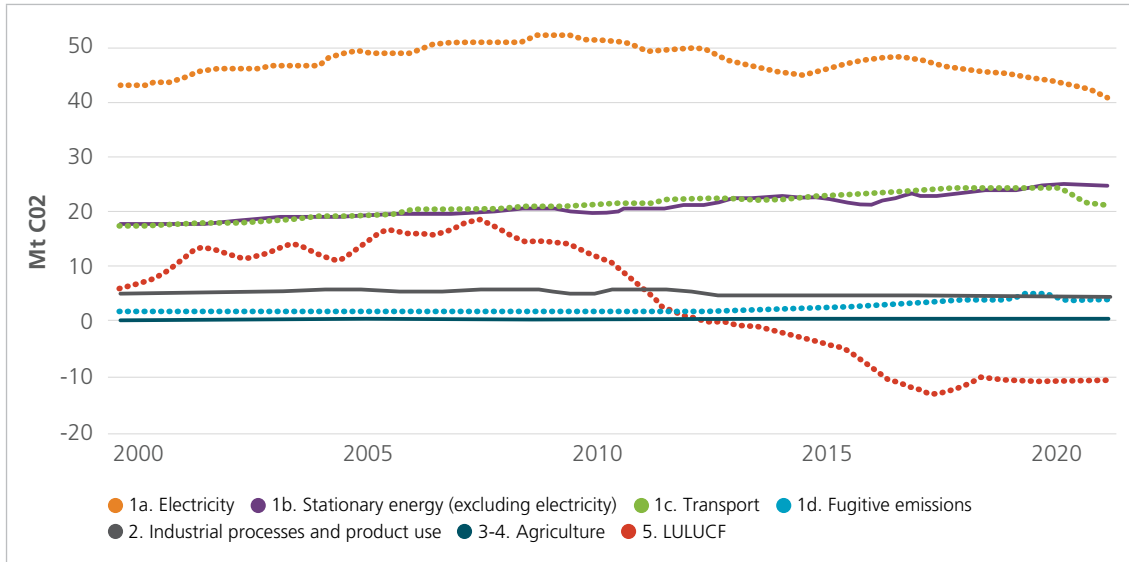
3. Appropriately disclosing ESG issues and reporting on progress in implementing the PRI

PRI recommends that asset owners such as superannuation funds disclose how climate change risk issues are integrated within investment practices; disclose ownership activities; and report on progress and/or achievements relating to PRI.

³⁸ UNPRI, An introduction to responsible investment: Climate change for asset owners, <https://www.unpri.org/an-introduction-to-responsible-investment/an-introduction-to-responsible-investment-climate-change-for-asset-owners/5981.article>

Appendix – Carbon intensity by industry

Quarterly CO₂ emissions by sector from March 2000 to March 2021³⁹



Actual annual emissions, by sector, for the year March 2020 and 2021⁴⁰

Sector	Annual emissions (Mt CO ₂ -e) year to March 2020	Annual emissions (Mt CO ₂ -e) year to March 2021	Change (%)
Energy – Electricity	173.8	164.1	-5.6
Energy – Stationary energy (excluding electricity)	102.4	100.9	-1.5
Energy – Transport	99.6	86.5	-13.2
Energy – Fugitive emissions	54.2	49.7	-8.3
Industrial processes and product use	30.8	30.6	-0.8
Agriculture	72.4	73.6	1.7
Waste	13.4	13.2	-1.3
Land Use, Land Use Change and Forestry	-24.7	-24.5	1.1
National Inventory Total	521.9	494.2	-5.3

³⁹ Australian Government Department of Industry, Science, Energy and Resources, National Greenhouse Gas Inventory Quarterly Update: March 2021, <https://www.industry.gov.au/data-and-publications/national-greenhouse-gas-inventory-quarterly-update-march-2021>

⁴⁰ Quarterly Update of Australia's National Greenhouse Gas Inventory: March 2021, Australian Government Department of Industry, Science, Energy and Resources, page 9

