RESILIENCE VALUATION INITIATIVE

Australian Institute for Disaster Resilience

AustralianSuper

RESILIENCE VALUATION INITIATIVE CASE STUDY

AustralianSuper's physical climate risk assessments

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Summary	· AustralianSuper has a diverse portfolio of assets globally that have varying degrees of exposure and vulnerability to climate hazards. · AustralianSuper is responsible for the long-term financial security of its members, and must consider long-term risks from climate change impacted natural hazards and climate. · A top-down approach has identified key climate hazard exposure under a high emissions scenario across the entire portfolio. · A bottom-up approach has identified the specific climate-related risks for each individual asset. · The findings from both these approaches enable decision-makers to manage climate-related risk across the Fund's portfolio as well as develop asset-level management plans that consider climate-related risk.
Decision Type	· Financial
Level of analysis	· Top-down – portfolio wide · Bottom-up – asset level
Outputs generated	· Portfolio-wide assessment of exposure to physical climate hazards under a high-emissions scenario. · Asset-level physical climate risk assessments to inform adaptation and contingency planning. · Improved financial modelling that includes climate-risk related expenditures.
Outcomes	· Identify organisation-wide exposure to climate hazards under a high-emissions scenario · Protect individual assets by developing asset management plans that account for climate risks · Collect information to inform future investment decisions
Next steps	· At the portfolio level, where AustralianSuper holds investments in geographic locations that are identified as being exposed they will be subject to further scrutiny and management through the investment screening process. · At the asset level, valuation of impacts under different possible climate futures will be quantified.

Understanding climate risk to a global investment portfolio

AustralianSuper is the largest superannuation fund in Australia, investing the retirement savings of 2.7 million members who represent around 10% of the workforce. As at 31 March 2022, the fund manages $261 billion in investments, with almost half of assets located in Australia and the rest spread across international markets.

AustralianSuper invests across multiple asset classes, geographic markets and at different points in the capital structure. As part of its unlisted portfolio, AustralianSuper invests around $25 billion in infrastructure assets, with more than 46% managed by its in-house team. The property portfolio currently totals $11 billion with more than 44% managed internally. Global infrastructure investments include toll roads and highways, ports, airports and energy infrastructure. Real estate investments include mixed-use developments, retail, office buildings and logistics sites. AustralianSuper must manage the risks and opportunities of climate change over the long term to ensure members achieve their best financial position in retirement, so a consideration of physical and transition climate risks at significant points in the investment process is critical to ensure investments generate returns in the long term.

AustralianSuper has adopted a four-stage framework to managing climate change risk within its investment portfolio:

This case study explores how physical climate risk across AustralianSuper's global portfolio of investments is identified using a combination of top-down and bottom-up climate risk assessments. Property and infrastructure assets can be susceptible to climate physical risks from changing weather patterns such as severe weather events and disasters, as well as longer term shifts in the climate and rising sea levels. The geographical location and type of asset impacts the level of exposure to climate risk. The dual approach allows AustralianSuper assess exposure to climate risk globally as well as considering the unique context for each asset.

The top-down approach is aimed at informing the Board, Chief Investment Officer, Investment Committee, internal investment teams and members, and offers a portfolio-wide assessment of exposure to future climate change affected climate hazards. It allows for disclosure under the TCFDs and informs ongoing management of the portfolio of investment.

The bottom-up assessment of climate risk for an individual asset is based on an in-house framework undertaken as part of the due diligence process when deciding whether to invest in an asset and during regular monitoring as part of the ownership plans. The bottom-up assessment includes a risk identification and analyses of mitigants, adaptation plans and asset level governance and strategies in place.

Figure 1: AustralianSuper's four-stage framework to manage climate change risk within its investment portfolio.

	Inputs	Outputs	Limitations	Next steps
Top down	Asset data (location, type of asset) climate hazard, exposure and severity	Mapping of risk exposure and severity globally	Does not provide insights to manage individual asset risks. Does not incorporate asset level mitigants and strategies in place. Resource intensive	Integration of geographies identified as being at risk into the investment screening process.
Bottom Up	Localised data, on the ground assessment of asset and its local area, local climate data, responses from management, risk mitigation plans and strategies	Asset level adaptation and contingency planning, improved financial modelling including climate-risk related expenditures	Dependent on information availability includaing maturity of the asset in having undertaken physical risk assessments	Quantifying valuation impacts under different scenarios

Top-down: Portfolio Climate Hazard Exposure Assessment

Moody's (previously Four Twenty Seven) was engaged to conduct a physical risk assessment of AustralianSuper's directly owned and externally managed property and infrastructure assets in 2018. This analysis covered 117 property assets and 320 infrastructure sites across 46 assets globally. Exposure to climate hazard risk was assessed out to 2040 using the above average warming scenario RCP 8.5[1].

For unlisted assets, this analysis assessed the risk of each asset being affected by key climate-related hazards such as floods, sea level rise, heat stress, water stress, hurricanes and typhoons.

Further analysis was conducted of AustralianSuper's listed equity and fixed interest portfolios in Trucost/S&P Global in 2020. The results of this research are published in AustralianSuper's 2021 Climate Change Report.

This assessment produced a global map that shows the geographical location and category of an asset, the extent and type of hazard and severity of the hazard. This enables AustralianSuper to identify categories of assets that tend to have higher exposure to climate hazards, such as energy infrastructure and highways. It also allows users to identify hotspots for particular types of hazards, such as coastal areas of New South Wales which are at a high risk of flooding for the domestic infrastructure portfolio. Flood and sea level rise were the climate hazards for which there was the greatest exposure in the infrastructure portfolio at both the global and domestic level.

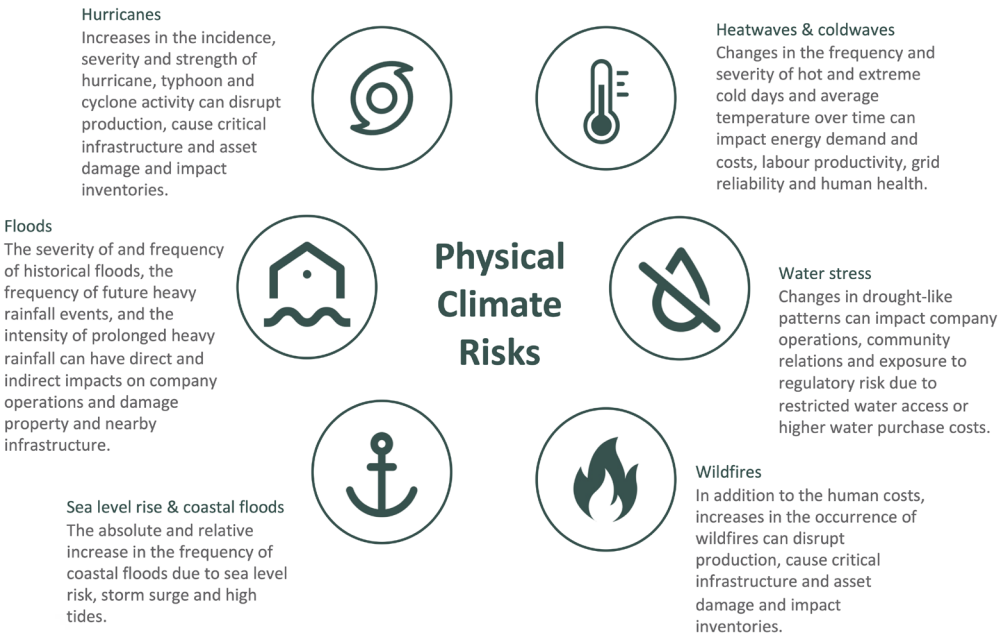

Figure 2: The assessment of AustralianSuper's property and infrastructure portfolios identified assets against six climate hazards

1. Representative concentration pathways (RCP) describe potential future pathways. It refers to the concentration of carbon in the atmosphere, and climate change scenario RCP 8.5 has been described as business as usual, high emissions or worst case.

Outcomes

This analysis provided information to help understand the areas of high potential exposure across the portfolio but has limitations in its ability to take account of the surrounding context of those assets and mitigation actions undertaken at the asset level. AustralianSuper is exploring further analysis with other tools to understand the potential revenue impacts from climate change risk to listed equities across geographies.

The results have helped to build awareness of climate hazard exposure across the portfolio and identify potential hotspots for physical climate risks to inform investment decision making now and into the future. It also informs engagement activities with portfolio companies and assets, external managers and other investors.

An understanding of physical climate hazard exposure and the ability to identify geographical areas associated with higher exposure and therefore potential risk can be used by decision makers to identify appropriate actions that can be taken. This may include determining if future investment is viable in certain geographic areas or sectors, or identifying the need to improve engagement with government stakeholders or coordination with asset managers to improve climate risk management.

Bottom Up: Asset-Level Approach

As well as understanding a global view of the physical risk exposure across the portfolio, AustralianSuper integrates a bottom-up approach to understand climate risk at the asset level. As part of due diligence and ongoing ownership planning, AustralianSuper applies its internally developed climate change risk assessment framework to identify physical climate risks and mitigation measures associated with each asset in its global portfolio. This assessment is used to identify and manage climate risk throughout the lifecycle of an asset from acquisition through to ownership and exit. It is based on the five pillars of the TCFD framework and Climate Action 100+ benchmarking tool for listed companies. It covers:

- Governance
- Strategy
- Risk management
- Metrics/targets
- Reporting

Acquisition

Prior to acquiring an asset, the ESG and Stewardship team has a representative on the transaction for every major infrastructure and property transaction to undertake the ESG due diligence assessment of the asset. As part of this, an in-house climate risk assessment is used to identify physical climate risks and mitigation measures in place at the asset level. This assessment is based on the ISO 31000 Risk Management Guidelines under which risks, consequences and likelihood of consequences are evaluated to inform the development of contingencies and adaptation plans.

Factors considered as part of this climate risk assessment includes:

- identifying climate hazards and areas of vulnerability
- assessing asset condition and capital expenditure plans in place
- understanding climate change governance and mitigation strategies in place – who has oversight and how this is monitored and resourced
- assessing emergency preparedness and the degree to which the asset coordinates with emergency services, local councils, other key stakeholders and nearby assets and communities
- undertaking insurance due diligence
- looking at vegetation management plans or biodiversity areas and surrounds.

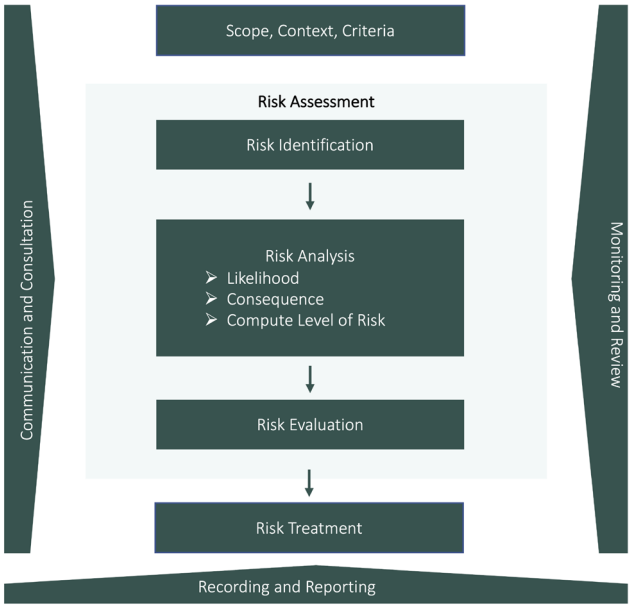

Figure 3: AustralianSuper's in-house climate risk assessment based on ISO 31000 Risk Management Guidelines

Once the climate change risk is identified and mitigants in place are assessed, ownership actions are developed by the ESG & Stewardship team or built into the ownership and engagement plan for the asset. Where capital and operating expenditure is required and ascertainable, this is factored into the asset's valuation.

For example, when AustralianSuper acquires a toll road, the in-house climate risk assessment is used to identify exposure to climate hazards, taking into consideration risk mitigation strategies and the local context impacting the toll road such as local environment and use of the toll road.

During the assessment of a toll road acquisition, the following risk factors would be considered:

- Climate hazards that could present a risk to physical assets including temperature and heatwaves, variable precipitation, sea level rise, storms and high winds, flooding and bushfires.
- Potential impacts to assets that flow on from these hazards including utilities and services failure, service disruption or deterioration, reduced performance and efficiency, structural and property damage and pollution.
- Consequences of these impacts, which may be direct or indirect, and can include reputational damage, issues around compliance, the financial costs, risks to human safety and health, and potential negative environmental impacts.
- Treatments to avoid or mitigate potential negative consequences including appropriate operational management planning, improving mechanical and electrical services, undertaking flood modelling, improvements such as tunnel ventilation or a water treatment plant.

Ongoing climate risk management

Once AustralianSuper owns an asset, climate risk factors are monitored and managed as part of its stewardship program. The in-house assessment framework and ownership actions identified from due diligence are used as the foundation for an engagement approach and monitoring with directly held assets. Asset-specific resilience work for property assets is primarily undertaken by external managers with AustralianSuper overseeing these activities.

For externally managed infrastructure, the ESG and Stewardship team monitor climate risk factors and engage with property managers to monitor the progress of each manager's sustainability initiatives and to address challenges and gaps as they emerge. To assist with monitoring, AustralianSuper use the annual Global Real Estate Sustainability Benchmark (GRESB). The results are reviewed and compared across managers and broader peer groups to form the basis of engagement meetings with these managers.

AustralianSuper continues to evolve its ongoing internal review process to ensure climate-related risks and opportunities are appropriately managed in its investment portfolio, now and in the future.

More information

Please refer to AustralianSuper latest TCFD reporting in the 2021 Climate Change Report for further information. **www.australiansuper.com/investments/how-we-invest/climate-change**

For more information about the Resilience Valuation Initiative: **www.resiliencevaluation.com.au RVI@climate-kic.org.au**