Priority Actions for Financing Adaptation & Resilience

Outcomes Report from ASFI's 2026 Climate Action Week event in Sydney, hosted in partnership with IAG

Australian Sustainable Finance Institute



Photo Credit: Wes Warren
Location: Windsor, NSW



Acknowledgment of Country

The Australian Sustainable Finance Institute Limited (ASFI) acknowledges the Traditional Custodians of Country throughout Australia and recognises their continuing connection and responsibility to land, water, species and culture.

We acknowledge their ongoing status as the First Peoples of Australia and pay our respects to their Ancestors and Elders past and present.

Artwork story

"Unity in Diversity" stands as a testament to ASFI's commitment to reconciliation and collaboration.

It inspires and invites viewers to recognise the beauty and strength that emerge when we acknowledge and embrace our differences, fostering a future of inclusivity, respect, and harmony.

Through this artwork, we are reminded that by taking that first step together, we have the power to create a ripple effect that extends far beyond our immediate circle, inspiring others to join us on the journey towards a better future and further improve outcomes for First Nations people.

Artist: Tarni Jane Designs

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Photo Credit: Jack Bass
Location: Blue Mountains, NSW

Executive Summary

As part of Climate Action Week Sydney 2026, the Australian Sustainable Finance Institute (ASFI) in partnership with IAG, convened the flagship event 'Advancing Priority Actions on Financing Adaptation and Resilience'.

The event brought together leaders from across banking, insurance, investment, Government and research to build a shared understanding of current challenges and identify practical pathways to mobilise capital into adaptation and resilience.

The Core Constraint

Discussions were structured around four interdependent themes: valuing adaptation, building market infrastructure, making projects investible, and mobilising capital markets. A consistent message ran through all themes: **the challenge is not a lack of capital, but a lack of systems, structures and coordination to deploy it effectively.**

A Shared Responsibility

Mobilising investment in adaptation and resilience was identified as a shared endeavour that requires ongoing, deliberate coordination and collaboration between the public and private sectors. Government leadership was seen as essential to set direction, establish a supportive policy and regulatory environment, and provide early-stage and gap support. The public and private sector should work together to build the enabling frameworks that allow private capital to scale.

Advancing the actions identified through this event offers a practical and coordinated pathway to accelerate Australia's shift from reactive disaster response toward a resilient, future ready economy – where adaptation and resilience are embedded in financial decision-making and enabled by a coherent, well-aligned system capable of deploying capital at scale.

Next Steps

Many of the priority actions for financing adaptation require multi-stakeholder collaboration, involving finance, government and other sectors.

With a strong track record and experience in driving multi-stakeholder collaborative processes to unlock finance and investment, ASFI is well placed to drive these priority actions.

As the immediate priority, ASFI will focus on raising industry funding to kick start foundational work on the methodology for developing adaptation and resilience criteria in the Australian taxonomy, with the expectation that government will be a part of that partnership and provide funding over time.

Partnership Model

A public private partnership on this work has been consistently identified as critical to its success.

Subject to resourcing, ASFI may also contribute to or drive some of the other priority actions identified through this workshop, in partnership with other organisations, particularly where they align to ASFI's areas of expertise such as blended finance.



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ASFI's event | Climate Action Week Sydney

Advancing Priority Actions on Financing Adaptation and Resilience

Event Purpose

As part of **Climate Action Week Sydney 2026**, ASFI and IAG co-hosted the flagship event *'Advancing Priority Actions on Financing Adaptation and Resilience'* on 11 March 2026.

The event brought together leaders from across the financial system, including banking, insurance, investment, alongside government agencies, industry bodies and research organisations.

It provided a forum to connect the substantial body of work already underway on adaptation and resilience.

By convening diverse expertise, the event aimed to build a shared understanding of key issues, surface system-level challenges, and identify practical pathways to accelerate investment in adaptation and resilience.

Event Objectives

Connect work already underway and share emerging practice on valuation, risk, market infrastructure and investment models, and expanding the Australian Sustainable Finance Taxonomy to cover adaptation and resilience as foundational market infrastructure.

Identify priority actions that make adaptation and resilience investible (e.g., clearer pipelines, risk-sharing mechanisms, standards and certification, procurement signals, insurance recognition).

Clarify roles across government, banks, insurers and industry to accelerate capital deployment into credible, high-integrity adaptation opportunities.

Overview

The event featured contributions from organisations at the forefront of adaptation and resilience finance, featuring opening remarks from Hon Josh Wilson MP, Assistant Minister for Climate Change and Energy, and a keynote address by Butch Bacani, Head of Insurance at the United Nations Environment Programme Finance Initiative.

Presentations were also delivered by IAG, the Insurance Council of Australia, the Actuaries Institute, the Investor Group on Climate Change and the National Australia Bank.



Collectively, these contributions (see Appendix B) established a shared evidence base for the workshop, showcasing emerging practices in valuation, risk assessment, market development and capital mobilisation, as well as setting the groundwork for strengthened public–private collaboration

The discussions were structured around **four interdependent themes** reflecting the key system components required to mobilise capital into adaptation and resilience:

- Valuing adaptation and resilience
- Building market infrastructure through identification of investible activities in the Taxonomy
- Making adaptation and resilience investible
- Mobilising capital markets

Prior to the event, ASFI shared a background paper that highlighted the interdependence of the key themes, noting progress in one area supports and enables progress in others, and coordinated action across public and private actors is essential. The workshop session built on this framing, designed to encourage focused, cross-sector dialogue across the four themes, with participants exploring key barriers, identifying practical opportunities and discussing actionable pathways to mobilise capital.



The background paper set out discussion questions for each of the four themes that guided the workshop.

Understanding the gap between climate risk, economics and capital flows

From reactive recovery to proactive, system-wide investment in adaptation and resilience.

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Climate risk is already affecting the financial system

Australia faces escalating physical climate risks that are already affecting productivity, infrastructure, asset values, insurance affordability and fiscal stability.

Natural disasters cost the economy approximately $38 billion each year. This is projected to rise to at least $73 billion annually by 2060.

These impacts are increasingly visible across financial markets, with physical climate risk emerging as credit risk for banks, portfolio risk for investors and affordability pressure for insurers.

Investment in adaptation and resilience is central to long-term economic stability. Evidence shows that every $1 invested in resilience can deliver approximately $9.60 in avoided losses. However, these investment remains limited and largely reactive.

Climate risk costs billions

Economic impact and investment return



$38bn → $73bn

Annual cost of natural disasters*

Nearly doubling without adaptation



$1 → $9.60

Return on investment

Almost 10x payback

Physical risk is now embedded as financial risk



Credit risk

(Banks)



Portfolio risk

(Investors)



Cost pressure

(Insurers)

*Costs projected to 2060 under current trajectories; Source: Insurance Council of Australia, 2025

Structural barriers are constraining investment

Recent analysis by the Australian Prudential Regulation Authority (APRA) reinforces this urgency. APRA's Insurance Climate Vulnerability Assessment shows **Australia's home insurance protection gap**, which is currently around 1 in 7 homes, could widen to **1 in 4 homes by 2050** as climate-driven premium pressures increase.

This would raise uninsured household losses, increase credit risk for banks and place greater fiscal pressure on governments, signaling a material threat to long-term financial system resilience. **This reflects structural challenges rather than a lack of capital.**

Adaptation and resilience investments generate system-wide benefits such as avoided losses and productivity gains, while upfront costs often fall on individual asset owners or investors. Data gaps, inconsistent definitions, limited project pipelines and a lack of aggregation mechanisms continue to constrain private investment.



As climate risks intensify, insurance premiums are expected to rise, increasing pressure on affordability and widening the insurance protection gap.

Policy direction is not enough to drive the action needed

Policy momentum is increasing.

The Australian Government's National Adaptation Plan (NAP), released in 2025 establishes a coordinated national framework and signals the importance of integrating climate risk into economic and financial decision making.

Building on the National Climate Risk Assessment (NCRA), it emerged in response to growing evidence that climate impacts are systemic, interlinked and already locked in under current warming pathways.

The NAP recognises that mitigation alone is insufficient and that adaptation must be integrated into economic planning, infrastructure design, land-use systems, financial decision-making and community resilience strategies.

However, **further action is required to translate this policy direction into investible opportunities for the private sector.**



The NAP commits to embedding climate risk into government decision-making, strengthening cross-jurisdictional coordination, improving access to decision-grade climate information and monitoring adaptation progress.

Key themes & Priority actions

Four system-level actions to mobilise capital and enable investment in climate adaptation and resilience

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THEME 1

Valuing Adaptation & Resilience

Current economic and financial frameworks systematically undervalue adaptation by failing to capture avoided losses, long-term benefits and system-wide impacts.

This creates a structural bias toward reactive recovery over proactive investment.

Priority actions:

- ✓ Improve valuation frameworks across public and private sectors to recognise avoided losses, long term benefits, and social impacts through probabilistic methods, adjusted discount rates, and longer appraisal periods

- ✓ Clarify benefit distribution and responsibilities, including shared value capture models and insurance or lending signals that reward resilience investment

THEME 1

Valuing Adaptation & Resilience

Background

Current economic and financial valuation frameworks do not adequately price physical climate risk or the benefits of resilience.

Without correcting this mispricing, adaptation remains treated as a discretionary cost rather than an economic investment.

The literature consistently identifies quantification and valuation challenges as a primary barrier to scaling adaptation finance (IGCC, 2024). Standard cost–benefit analysis often applies high discount rates, short appraisal horizons and deterministic modelling approaches that obscure long-term avoided losses and tail-risk events (Actuaries Institute, 2025; Della Croce et al., 2024).

The Insurance Council of Australia quantifies rising disaster costs and highlights the economic efficiency of avoided-loss investment, noting that every dollar invested in resilience can significantly reduce recovery expenditure (Insurance Council of Australia, 2025).

Complementing this, the National Adaptation Plan projects that extreme heat alone could reduce national economic output between $135 billion and $423 billion by 2063, depending on warming pathways (Australian Government, 2025). Despite this growing body of quantified risk, these forward-looking loss projections and avoided-loss benefits are not systematically embedded into asset valuation, lending decisions or infrastructure appraisal frameworks.

Barriers

In the discussion, five key barriers to valuing adaptation and resilience were identified, requiring coordinated public and private sector action to improve valuation, support investment decisions, and scale capital deployment:

1. Undervaluation of avoided losses
2. Limitations in valuation frameworks
3. Misalignment between costs and benefits
4. Governance and coordination gaps
5. Short-term political and funding cycles

Actions Needed:

Standardise avoided-loss valuation methodologies across insurers, government and financial institutions.

Reform appraisal frameworks, including discount rate guidance and time horizons, to better reflect long-term system risk.

Integrated co-benefits such as health, productivity, insurance stability and ecosystem services into economic analysis.

Expanded use of probabilistic modelling (e.g. Average Annual Loss), scenario analysis and decision-grade climate risk analytics, including the economic effects of climate change on natural assets.

Undervaluation of avoided losses

Avoided losses remain systematically undervalued in investment decision-making, with a persistent reluctance to invest in prevention where benefits are not immediately visible. In some cases, avoided losses are not consistently recognised as a "real" benefit, particularly when weighed against competing short-term spending priorities.

Current valuation approaches fail to capture the full economic and social costs avoided through early investments in adaptation and resilience, including:

- mental health impacts
- disaster recovery and clean-up costs
- relocation and displacement costs
- broader community and social disruption

Avoided costs are therefore not consistently recognised as both **economic and social value**, resulting in a structural bias against resilience investment.

Case Study

Queensland Government's 'Resilient Homes Fund: Voluntary Home Buy-Back program'

This program has in some cases resulted in fragmented communities, where some households relocate and others remain. This has created partially abandoned neighbourhoods, highlighting the need for coherent community relocation strategies.

Mental health impacts and broader community disruption are also rarely captured in traditional economic analysis.



International experience further demonstrates how policy settings shape valuation outcomes.

Norway requires government approval before rebuilding in disaster-affected areas, and reconstruction often comes with mandatory upgrades to stronger building standards. In some cases, households may receive financial support to relocate or rebuild in safer locations.

These policies ensure that resilience benefits (such as reduced future losses, improved safety and long-term cost savings) are explicitly valued and embedded in reconstruction decisions.

By contrast, in many parts of the United States, political and community pressure drives rapid post-disaster rebuilding, often in the same high-risk locations.

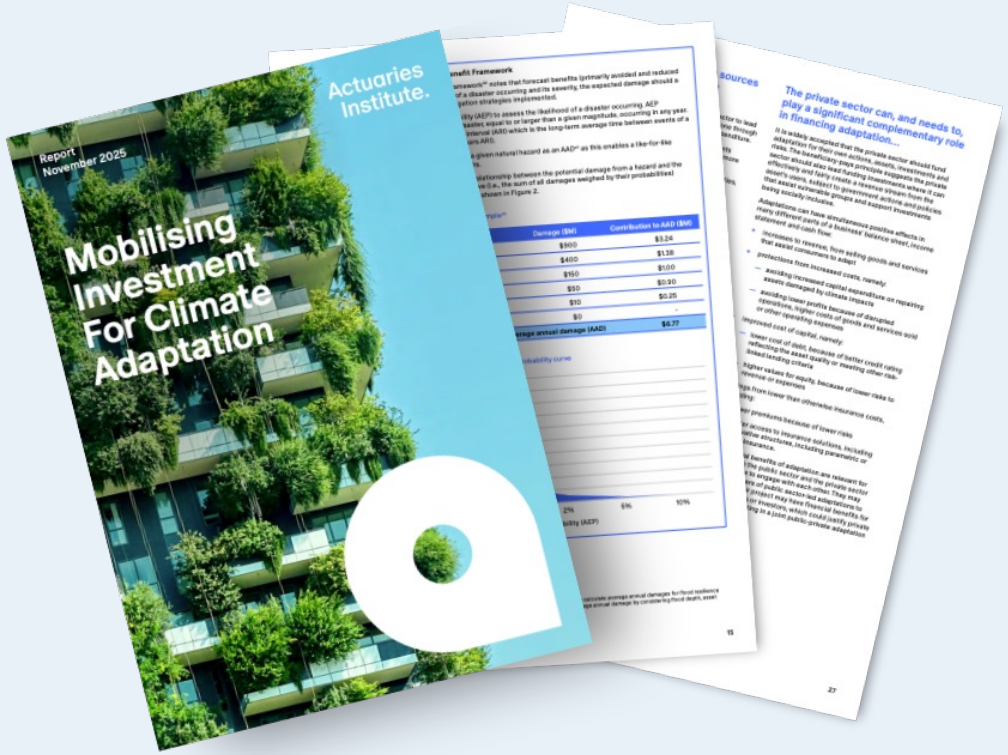
While this enables quick recovery, it can reinforce long-term vulnerability because decisions prioritise speed over resilience.

Limitations in valuation frameworks

Current cost–benefit and appraisal frameworks have key flaws when applied to adaptation and resilience investment. In particular:

- best estimate cashflow approaches are effectively based on averages (climate risk sits in the tail risk, not the average)
- appraisal periods are often too short
- high discount rates bring future costs and benefits into present value in a way that penalises long-term resilience benefits
- insufficient use of probabilistic or scenario-based methods

The Actuaries Institute's Mobilising Investment for Climate Adaptation was referenced in discussions as providing practical recommendations, including adjusting discount rates to better capture long-term resilience benefits and using probabilistic methods.



A Report discussing solutions to the challenges of negative economic and social impacts of climate change and recommendations for valuing, coordinating and financing adaptation investment.

Misalignment between costs and benefits

Adaptation and resilience investments generate benefits across multiple parties.

This raises questions about:

- who benefits
- how those benefits are distributed
- who should pay for the investment

The mismatch between who pays and who benefits creates a barrier to financing, particularly where investments generate broad public and private benefits.

This creates a fundamental market design challenge, constraining both public and private sector investment.

Governance and coordination gaps

Strong leadership at the Commonwealth level is needed, but current governance arrangements are fragmented.

There is a need for:

- consistent valuation frameworks
- coordination across all levels of government
- policy direction for the private sector.



Participants also noted that the current Disaster Recovery Funding Arrangements 2018 between Commonwealth, states and territories is outdated and should ideally be updated regularly (i.e., annually).

Short-term political and funding cycles

The short-term nature of Commonwealth budgeting and political cycles discourages long-term investment in adaptation and resilience.

Participants noted that the conversation on funding adaptation and resilience for the long term requires greater maturity in public policy discussion, including how to prevent projected risks from becoming reality.

Resilience projects can remain stalled even where risks are known and projects have been identified.

Long-term benefits are difficult to prioritise within short funding cycles.

Case Study

Netherlands Delta Programme

The Netherlands flood defence policy (Delta Programme) was referenced as an example of avoided-loss valuation and long-term funding. The Netherlands is considered a world leader in flood management and resilience, with the Dutch Government:

- investing approximately €1.25 billion annually in flood defences (dams, levees, dykes and storm surge barriers),
- coupled with detailed mapping and live tracking of the infrastructure

Key features:

- the investment pipeline sits outside political cycles
- the key measure of success is preventing loss of life (“no deaths”)
- All measures in the Delta Programme are financed from the Delta Fund, which is a separate item on the central government budget, with long term funding earmarked up to 2032.

The Delta Programme is revised on an annual basis

THEME 1: VALUING ADAPTATION & RESILIENCE

Private & Public Sector Reform Needed

Undervaluation

For Government

Standardise approaches to valuing avoided losses across government; ensure public appraisal frameworks capture the full range of avoided costs, including social and community impacts.

For the Private Sector

Apply consistent approaches to recognising avoided losses in investment and financing decisions.

Shared

Identify who benefits, how those benefits are distributed, and who should pay for the investment.

Limitations

For Government

Update public investment frameworks to incorporate probabilistic methods, reassess discount rates for long-term resilience investments and extend appraisal horizons.

For the Private Sector

Use valuation and risk approaches that better reflect tail risk in investment and lending decisions.

Shared

Support greater use of probabilistic methods and more appropriate approaches to long-term resilience valuation across sectors.

Misalignment

For Government

Clarify governance arrangements and responsibilities for funding adaptation across levels of government.

For the Private Sector

Reflect resilience more clearly in pricing, lending and investment decisions. i.e.,

- **Insurers** can play a role by linking insurance premium signals to resilience investment. E.g., *resilience ratings for homes, insurance premium discounts for households that invest in resilience upgrades*
- **Banks and lenders** may support resilience through financing mechanisms such as mortgages linked to resilience improvements.

Participants also pointed to the concept of **shared value capture** as one way to address this issue, recognising that both public and private actors benefit from investments in adaptation and resilience.

THEME 1: VALUING ADAPTATION & RESILIENCE

Private & Public Sector Reform Needed

Governance

For Government (lead role)
Provide national leadership, clarify who has funding responsibilities, clarify how different levels of government contribute, refresh Commonwealth–State disaster funding arrangements, improve coordination across levels of government and strengthen project design capability, particularly in local government

For the Private Sector
Participate in implementation alongside government, including insurers, banks, infrastructure investors and property developers

Shared
Bring a wider range of voices into the process, including industry, and First Nations community organisations.

Participants noted that **national coordination should be driven by Government**, with the National Adaptation Plan (NAP) and National Climate Risk Assessment (NCRA) seen as a strong basis for doing so. The NAP action agenda commitment was noted as an opportunity to bring forward the conversation on how adaptation will be paid for.

Funding

For Government: Lead longer-term funding and policy approaches that can support investment over time *(see case study example on the Delta Programme, demonstrating how governments can institutionalise long-term funding to support sustained resilience investment)*

Shared
Support a more mature public policy conversation on long-term adaptation and resilience needs.

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THEME 2

Building Market Infrastructure through identification of investible activities in the Taxonomy

Stronger market infrastructure is required to enable consistent identification, assessment and financing of adaptation activities.

Taxonomy expansion is a key enabler to support new financial products and improve capital allocation by making adaptation outcomes more visible and comparable.

Priority actions:

- ✓ Public Private collaboration to expand the Australian Sustainable Finance Taxonomy to define adaptation and resilience activities, create comparability, reduce transaction costs and provide a clear market signpost for investors
- ✓ Once developed, apply taxonomy-aligned frameworks in investment, lending, asset management and insurance decisions including the development of financial products linked to adaptation and resilience

THEME 2

Building market infrastructure through identification of investible activities in the Taxonomy

Background

Improved valuation alone will not mobilise capital at scale.

Investors require consistent methodologies, credible and usable investment frameworks and comparable metrics to allocate capital confidently.

The literature identifies fragmented climate risk data and inconsistent definitions and methodologies for identifying adaptation and resilience activities as persistent barriers (IGCC, 2024; Climate Bonds Initiative, 2023).

Without common standards, adaptation remains bespoke and transaction-specific, increasing due diligence costs and constraining product development.

The National Adaptation Plan highlights the need for decision-grade climate information and stronger coordination across finance and infrastructure systems, yet consistent market-wide implementation remains incomplete (Australian Government, 2025).

Expanding the Australian Sustainable Finance Taxonomy to explicitly include adaptation and resilience provides a pathway to system coherence. A clear taxonomy can establish a shared language across business, banks, insurers and investors, reduce information asymmetry and enable tracking of adaptation-aligned capital flows.

It can shift adaptation from negotiated case-by-case assessment to a recognised investment category with defined eligibility criteria and measurable outcomes.

In the discussion, participants identified four key barriers to scaling investment in adaptation and resilience, closely linked to gaps in market infrastructure:

1. Difficulty identifying investable activities
2. Fragmentation and lack of standardisation
3. Limited scalability of adaptation activities
4. Investment in adaptation and resilience is treated as a secondary priority

Action Needed:

- ✓ Expand the Australian Sustainable Finance Taxonomy to include clear, sector-specific adaptation and resilience criteria underpinned by consistent metrics for resilience outcomes and avoided-loss performance.

Barriers to building market infrastructure

Difficult identifying investible activities

Decision-makers face uncertainty about which activities meaningfully reduce risk. *This limits the ability of investors to identify investible opportunities.*

Fragmentation and lack of standardisation

Adaptation and resilience remains highly fragmented, due to:

- inconsistent definitions of what constitutes adaptation and resilience
- lack of common methodologies to assess activities
- approaches vary across sectors and transactions

As a result, investments are assessed on a case-by-case basis, increasing due diligence costs and limiting scalability.

Limited scalability of adaptation activities:

Current adaptation and resilience solutions are bespoke, non-replicable, localised and not situated into broader considerations of systematic risk across sectors and thematics. *This constrains the development of standardised financial products and reduces investor appetite.*

Investment in adaptation and resilience is treated as a secondary priority

Adaptation is often framed as an additional cost rather than a core component of development and investment decisions.

There is currently no mechanism to draw on to embed assessment of viable adaptation and resilience solutions as part of investment decisions.



Taxonomy Expansion

There is **strong support across the finance sector and beyond** to expand the Australian Sustainable Finance Taxonomy to cover adaptation and resilience.

ASFI's 'Unlocking Private Capital for the Transition' report, based on the experience of 10 financial institutions piloting the taxonomy and feedback from ASFI members, found 80% saw the inclusion of adaptation and resilience as an immediate priority and a low-cost, high-impact way to attract private capital into strengthening Australia's resilience.

This aligns with the extensive stakeholder feedback collected by ASFI during the taxonomy scoping and development phases, including from the ICA, IGCC, Resilience Building Council, among others.

The Actuaries Institute reinforced this in its report Mobilising Investment for Climate Adaptation, making a key recommendation that the taxonomy be broadened to support private investment in adaptation.

The Climate Change Authority's 2025 Annual Progress Report also made a similar recommendation, identifying taxonomy expansion as a tool to advance adaptation finance.

Building market infrastructure by expanding the Australian Sustainable Finance Taxonomy

Expanding the Australian Sustainable Finance Taxonomy to include adaptation and resilience was identified as a key step toward addressing these barriers.

A sustainable finance taxonomy provides a clear framework for identifying, defining and classifying the economic activities, assets and measures that help households and businesses reduce physical climate risk.

A credible taxonomy is therefore a foundational tool for unlocking private finance for adaptation and resilience. It signals which activities are investment eligible, however, it does not alter the accrual of benefits across different stakeholders or the payback period.

By bringing together expertise from insurance, banking, investment and other economic sectors, the taxonomy also creates alignment across the private sector on which activities to prioritise and how to accelerate them.

Current global approaches to climate adaptation and resilience in sustainable finance taxonomies are still nascent and evolving.

This presents a strategic opportunity for Australia to:

- **consolidate** emerging international approaches into a coherent, market-ready framework
- **develop** a credible, usable and interoperable taxonomy aligned to domestic risk priorities
- **focus** on priority sectors critical to the Australian economy (e.g. infrastructure, housing, agriculture)
- **position** the taxonomy as a market enabler to support innovation in financial products
- **catalyse** private capital by clearly identifying investible activities and aligning capital to resilience outcomes

What can a credible taxonomy achieve?

Translate science into financial decisions

Providing clear guidance on which activities reduce physical climate risk and should be prioritised for investment

Establish consistent definitions and criteria

Enabling more reliable identification of adaptation and resilience activities across sectors

Support comparability and reduce costs

Improving consistency across projects can reduce transaction costs, lowering due diligence burdens and enabling product development

Enable capital allocation at scale

Providing confidence for investors, lenders and insurers to integrate adaptation into mainstream decision-making

Support the development of new products

Financial products including lending, insurance and investment products linked to resilience outcomes

Facilitate blended finance approaches:

By identifying activities that will make a significant contribution to adaptation and resilience, where public and private capital can be combined to support investment

Private & Public Sector Reform Needed

For Government

In the immediate term

Work with the private sector on a pathway to progress the inclusion of adaptation and resilience within the Australian Sustainable Finance Taxonomy

In the near term

Support the development of adaptation and resilience in the taxonomy in collaboration with the private sector

As part of the sustainable finance agenda, supporting the expansion of the taxonomy is uniquely within the Commonwealth's remit, and therefore offers an early and relatively simple but catalytic opportunity to make progress on Government's Adaptation Action Agenda in 2026.

For the Private Sector:

Collaborate

On the foundational, fit-for purpose methodology for incorporating adaptation and resilience into the Australian taxonomy

Partner with the Government

To support the development of adaptation and resilience criteria in the Australian Sustainable Finance Taxonomy

Apply

Taxonomy-aligned frameworks in investment, lending, asset management and insurance decisions including the development financial products linked to adaptation and resilience, once the taxonomy is developed

THEME 3

Making Adaptation Investible

While opportunities exist, many projects are not investment-ready due to weak revenue pathways, early-stage risk and pipeline gaps.

Public sector leadership is essential to structure projects and crowd in private capital.

Priority actions:

- ✓ Deploy risk-sharing mechanisms, including concessional finance, structured public–private partnerships, and clearer attribution of costs and benefits
- ✓ Build investible pipelines in priority sectors, particularly infrastructure, housing, agriculture and energy, recognising where public funding is essential (e.g., home buybacks, large scale protective works)

THEME 3

Making Adaptation Investible

Background

Even where capital is willing, adaptation often lacks the scale, aggregation and structure required for institutional participation.

Many resilience projects are small, place-based and heterogeneous. Benefits are long-term and probabilistic.

Revenue streams are uncertain or indirect. As a result, projects often fail to meet the requirements of institutional investors seeking scale, predictable cash flow and replicability.

Aggregation mechanisms, intermediaries and blended finance structures capable of bundling projects into investable portfolios remain underdeveloped (Climate Bonds Initiative, 2023; IGCC, 2024).

Without aggregation and risk-sharing mechanisms, adaptation remains fragmented and difficult to mainstream.

Actions Needed:

Deploy risk-sharing and blended finance mechanisms

Including guarantees, concessional capital and first-loss structures - to address early-stage risk and crowd in private capital. These may be delivered through existing public financing institutions, dedicated vehicles or public–private partnerships.

Establish a transparent national pipeline of priority adaptation investments to provide visibility and confidence to private capital

This could mirror models such as national infrastructure priority lists, identifying projects of systemic importance across public infrastructure, housing, nature-based solutions and community resilience, including projects led by or co-designed with First Nations communities.

Strengthen the capacity to bundle and structure smaller resilience projects into larger, investable portfolios

This addresses scale and transaction costs and may operate alongside blended finance but can also be delivered through purely private market structures.

Infrastructure identified as most mature sector opportunity

Sector 1: Infrastructure

Infrastructure was consistently identified as the most mature opportunity area, particularly where resilience measures can be integrated into existing infrastructure or industrial assets. Investments are more viable where benefits are clearly attributable to asset owners.

However, project finance challenges persist where adaptation benefits are not captured in financial metrics.

Participants highlighted the need for standardised cost–benefit frameworks that incorporate:

- avoided losses (e.g. disaster recovery, asset damage)
- broader economic benefits (e.g. productivity, reduced disruption)
- fiscal impacts, including tax revenues and avoided public expenditure

These frameworks should also be applied consistently across levels of government to reflect how costs and benefits are distributed.

Place-based precinct opportunities

Participants noted that industrial estates in low lying areas present compelling opportunities because private asset owners directly benefit from resilience improvements. However, local government plays a critical coordinating role, particularly in planning, approvals and precinct level design

Discussions highlighted that adaptation investment is most viable in sectors where there are identifiable beneficiaries, existing assets, and clearer pathways to monetisation. These conditions make it easier to attribute benefits, structure financial returns and build investment cases that attract public–private investment.

Case Study

QIC: Using resilience assessment to structure Public–Private Partnership (PPP) opportunities

Queensland Investment Corporation (QIC) demonstrated how early-stage resilience assessment can support the structuring of PPP opportunities for infrastructure resilience. QIC funded and applied the UNDRR Disaster Resilience Scorecard across the Port of Brisbane and Tilt Renewables to assess asset resilience and identify interdependencies and third-party risks. The assessment highlighted that many resilience investments depend on infrastructure and services beyond the asset boundary, requiring coordinated action across public and private stakeholders - creating a clear role for PPP-style delivery. QIC subsequently co-led development of guidance to build investment cases for resilience projects, with the initiative successfully funded under the Government's Disaster Ready Fund.

PPP models for resilience rely on early coordination and shared risk identification. Structured assessments align stakeholders and define investable opportunities, while public funding is needed to support the coordination required, and helps de-risk and catalyse investment.

THEME 3: MAKING ADAPTATION INVESTABLE

Emerging sector opportunities for investment in climate resilience

Sector 2: Housing

Where resilience into new builds can be embedded through building codes, standards and home lending practices, while retrofits face more complex barriers due to financing constraints, household vulnerability, and heterogeneity across existing homes.

Participants noted that **linking resilience upgrades to insurance premiums could create cashflow benefit**s, with avoided insurance costs helping make investments more financeable.

Sector 3: Agriculture

Where resilience investments can enhance the productivity, reliability and durability of physical assets, this creates a more compelling and measurable investment case for both operators and financiers.

Sector 4: Energy Systems

Energy system investment across generation and transmission must integrate forward-looking climate risk into location and design decisions to create opportunities for investment.

This also requires technological innovation that enables assets to operate safely and efficiently under increasingly extreme conditions.

Cross-sector Solutions

Participants noted that **nature-based solutions** are more challenging to commercialise because benefits are often diffuse, shared across stakeholders, and accrue over longer timeframes

As a result, monetisation pathways are less clear, making these projects less suited to traditional private capital without complementary public funding.

Cross-Sector Insights

Asset-linked resilience investment

Investment in resilience is often easier when tied to existing assets because the long-term owner directly benefits from avoided losses and improved performance. In contrast, developers of greenfield projects rarely retain the asset postconstruction, so they have fewer incentives to invest in resilience measures.

Resilience as a productivity driver

Projects are more attractive where resilience measures also deliver efficiency or productivity gains, and where benefits accrue to identifiable stakeholders who are able to pay for those benefits.

Public support for system-level benefits

Where benefits are diffuse or accrue at the community level, public sector support is typically required.

Government’s role as de-risker

There was strong recognition that governments play a central role in funding early-stage development, identifying opportunities, and building a pipeline of investable projects, alongside enabling coordination across stakeholders.

THEME 3: MAKING ADAPTATION INVESTABLE

Investment barriers requiring risk-sharing or concessional support

Barrier 1: Weak or unclear revenue pathways

Adaptation investments often lack consistent cashflows. Benefits such as avoided losses, productivity gains or lower insurance costs are real but not consistently monetised, weakening the investment case and limiting private sector participation.

Barrier 2: Risk-sharing & Concessional funding

Projects often require government to take a first-loss or provide concessional finance to make the risk allocation viable. However, there is limited data to price or justify this risk-sharing, creating hesitation and slowing deployment of concessional capital at scale.

Early-stage risk and pipeline gaps

A shortage of investment-ready projects persists due to complex approvals, uncertain outcomes, and difficulty achieving a bankable structure. Early-stage development risk is a primary barrier, typically requiring public funding or concessional capital to progress.

Barrier 3: Standard & Implementation Gaps

There is no consistent national standard for recognising resilience upgrades; lenders and insurers provide limited recognition; and linking resilience to insurance pricing is administratively complex. To solve this issue, participants highlighted the following roles:

- **Insurance sector:** Develop nationally consistent resilience certification and rating systems that are recognised by insurers and lenders, supported by standardised digital assessment tools. This would enable verified resilience upgrades to be reflected in underwriting, pricing and lending decisions.
- **Government:** Use procurement and regulatory frameworks to create demand signals for resilience - by embedding minimum resilience standards, certification requirements and lifecycle risk considerations into major infrastructure, housing and public investment programs.

Projects likely to remain primarily public-funded

Some adaptation investments are unlikely to attract private capital at scale due to limited revenue potential, diffuse benefits, or complex delivery, and will generally require ongoing public funding, these may include:

Home buy back programs: a clear example where there is no mechanism to generate a financial return, making them unsuitable for private investment.

Large scale protective infrastructure (e.g., levees, sea walls) generally lack direct revenue streams. While there may be theoretical scope to create cashflow through avoided insurance premiums, it remains challenging and uncertain in practice.

Projects involving significant approvals/negotiation loads with outcomes that are highly uncertain. These characteristics make them unattractive to private capital, particularly where project timelines, cost structures or responsibilities are unclear.

Where private sector participation may grow: *Over time, private involvement could increase where projects are pre structured into bankable models, planning/approvals are resolved upfront, and specific revenue or savings streams can be evidenced. Even then, early-stage project development and de risking are likely to remain core public responsibilities.*

THEME 3: MAKING ADAPTATION INVESTABLE

Governance, policy and institutional enablers

Governance

Scaling investment depends on coordinated action across government, regulators, market bodies and private actors. It requires:

- a **whole-of-government** approach to align policy, planning and funding
- a **central coordinating** or "backbone" function to convene stakeholders and maintain momentum
- **resourcing** to support facilitation and engagement across complex, multi-stakeholder projects

A more coherent institutional structure would reduce duplication, improve clarity on responsibilities, and enable faster movement from policy intent to investable projects.

Leadership

The public sector has a critical role in building a project pipeline for adaptation and resilience projects, by:

- **identifying** and mapping opportunities
- **supporting** project preparation and development, including early technical work
- **resolving** planning, regulatory and approval barriers that slow or stall projects

Participants noted that without this groundwork, private capital often cannot engage due to uncertainty, incomplete information or structural risks.

Participants emphasised that scaling adaptation investment requires stronger institutional alignment, clearer policy signals and more coordinated system infrastructure.

Governance settings and market rules play a decisive role in determining whether adaptation projects can move from concept to investment-ready opportunities

Incentives

Participants emphasised the importance of financial frameworks that help investors recognise and value adaptation benefits.

Key opportunities include:

- **expanding the Australian Sustainable Finance Taxonomy** to identify investable adaptation and resilience activities, act as a market "signpost" and increase investor awareness
- using the **taxonomy expansion to support new financial products** (e.g., resilience-linked loans or bonds)
- **improving capital allocation** by making adaptation outcomes more visible and comparable

These measures help translate adaptation needs into the language of investors, improving clarity on what "counts" as an investable resilience activity.

Governance, policy and institutional enablers

Regulatory and institutional levers

Participants identified opportunities to better integrate climate and resilience risk into the financial system including:

- a potential role for the **Australian Prudential Regulation Authority (APRA)** in reflecting physical climate risk in capital settings, where appropriate
- exploring an expansion of the **Clean Energy Finance Corporation (CEFC)** mandate to explicitly include adaptation and resilience activities

These levers represent practical, near-term reforms that could strengthen financial sector participation in adaptation and resilience and be implemented relatively quickly.

Role for the Insurance Sector

Insurance-related signals were viewed as an important mechanism for translating resilience improvements into financial value. Participants emphasised the need for:

- **a coordinated industry approach** to linking resilience upgrades to insurance pricing
- **consistent approaches to avoid consumer switching** ("leakage") or competitive disadvantage for insurers who reward resilience
- **supporting tools** -such as online assessments and certification frameworks - to verify upgrades and reduce administrative complexity

These mechanisms would help embed resilience into market pricing and strengthen the financial case for investment.

THEME 4

Mobilising Capital Markets

Mobilising private capital at scale requires stronger coordination, clearer value articulation and improved data and metrics.

Priority actions:

- ✓ Establish coordination mechanisms (e.g. hubs or platforms) to aggregate projects, support co-design and improve pipeline visibility
- ✓ Improve data, metrics and risk communication to strengthen the investment case and embed resilience into financial decision-making

THEME 4

Mobilising Capital Markets

Background

Cost-sharing barriers are consistently identified as a central constraint to scaling adaptation investment.

Adaptation generates system-wide benefits, including reduced disaster recovery expenditure, improved insurance affordability and stabilised asset values. However, upfront costs are typically borne by individual asset owners, infrastructure operators or project sponsors, while benefits accrue broadly across households, governments, insurers and markets.

Analysis of adaptation finance in London and the UK highlights that scaling investment requires deliberate market creation, including instruments and governance structures that better align incentives and risk allocation (Della Croce et al., 2024).

Without these mechanisms, capital may rationally withdraw from high-risk regions rather than invest in resilience upgrades.

Banks and institutional investors sit at the centre of this dynamic. As primary allocators of credit and long-term capital, they shape risk pricing, lending standards and investment criteria.

Where physical climate risk is mispriced or resilience investments are not recognised in credit frameworks, capital allocation will not adjust accordingly.

Barriers

In the discussion, four key barriers to mobilising capital were identified, requiring stronger coordination, structuring and system alignment:

1. Design, scale and pipeline constraints
2. Weak articulation of value and investment case
3. Gaps in metrics, data and risk understanding
4. Policy and regulatory misalignment

Actions Needed:

- ✓ Develop resilience-linked bonds and adaptation-aligned loan structures that reward risk reduction.
- ✓ Integrate resilience performance metrics into credit assessment, lending covenants and infrastructure financing frameworks.
- ✓ Explore sovereign or sub-sovereign resilience bond issuance to provide benchmark liquidity and signal policy commitment.
- ✓ Align fiscal, insurance and prudential settings to incentivise proactive risk reduction rather than reactive recovery expenditure.

Design, scale and pipeline constraints

A consistent theme across discussions was that many projects fail to progress due to design challenges, lack of scale and difficulty aligning multiple stakeholders.

There is a **need to structure** projects in ways that:

- bring together public and private actors
- are sufficiently large and replicable for capital markets
- avoid stalling during development

Developing a clear and visible pipeline of projects is critical to enabling investor participation.

Participants also noted the potential role for a **central coordinating "project development hub"** to support project development and help deliver "investable" projects.

Weak articulation of Value & investment case

Investments in adaptation and resilience are often harder to communicate and finance compared to mitigation, due to:

- Benefits not being clearly articulated
- Investments are often framed as standalone rather than linked to broader co-benefits
- There is ongoing tension between short-term and long-term investment horizons

Participants emphasised that adaptation should be framed through a shared value lens, recognising that investments generate economic, social and system-wide benefits across multiple stakeholders.

Stronger and clearer communication of resilience benefits, including **avoided losses, productivity impacts and broader social value,** is needed to support investment decisions and shift adaptation from a reactive cost to a proactive investment.

Gaps in metrics, data and risk understanding

A lack of consistent, decision-useful data remains a major barrier. Participants highlighted the **need for clearer metrics for investments,** especially those that quantify avoided losses and provide forward estimates of social and economic benefits.

Participants also referenced *The Centre for Policy Development's Budgeting for Natural Disasters report (2025)* which highlights that a *lack of forward-looking metrics leads to underestimation of disaster related costs* and the undervaluation of investments that avoid future losses.

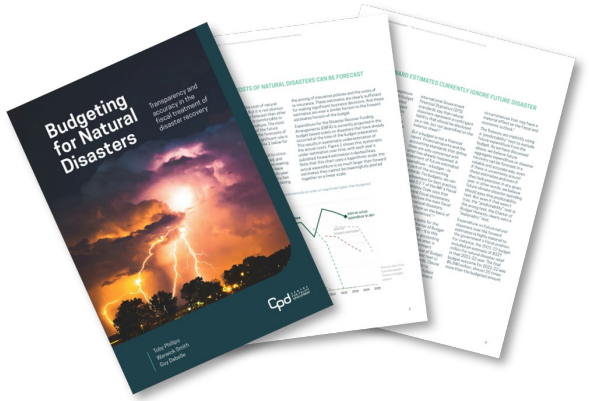
The report shows that **while the Commonwealth on average spends ~$1.6 billion per year on disaster recovery, it budgets only $215 million, creating a $6 billion gap** across the forward estimates.

This omission makes adaptation and resilience investments appear as pure costs, even though they can meaningfully reduce future government expenditure on disasters.

These metrics should also be regularly updated (e.g., annually) to properly value adaptation and resilience activities.

Additionally, participants recognised that **investors and communities need better access to climate-risk and hazard data.**

They also emphasised the need for education and capability building so users can correctly interpret this data and apply it in planning, investment assessments, and project design.



Why disclosures & scenario analysis matter

Climate-related disclosures and scenario analysis were seen as important tools to:

- ✓ identify common risks
- ✓ extract shared insights
- ✓ support more consistent approaches across institutions, under various climate conditions

Under AASB S2 (paragraph 22), Australian entities must use scenario analysis to test climate resilience, employing at least two scenarios aligned with the Climate Change Act 2022. One limiting global warming to 1.5°C and another assuming a high-emissions, high-physical-risk pathway of 2.5°C or higher.

Policy and regulatory misalignment

Key issues in policy frameworks

Current policy and regulatory settings can constrain proactive resilience investment.

Key issues include:

- planning frameworks that still allow rebuilding in high-risk areas (e.g. flood prone areas)
- regulatory focus on short-term performance (e.g. one-year insurance horizons)
- superannuation performance tests that may favour short-term returns over long-term resilience investment

Participants also noted the importance of:

- embedding adaptation across sectoral policy frameworks
- building a "common language" across public and private

Barriers

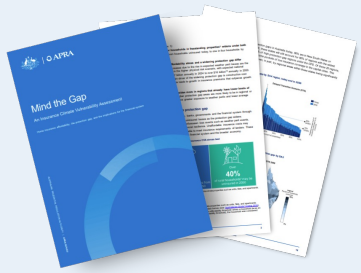
APRA's Insurance Climate Vulnerability Assessment (Insurance CVA) was identified as an opportunity to help "kick-start" more systematic consideration of resilience investment.

The Insurance CVA provides system-wide insights into how physical climate risks may impact insurance affordability and asset values, helping to quantify exposures and inform investment decision-making.

The stress test highlights how rising climate risks could significantly widen Australia's home insurance protection gap.

The proportion of **uninsured homes projected to increase from around one in seven today to around one in four by 2050** (under severe but plausible scenarios)

This reflects increasing insurance premiums driven by more frequent and severe weather events, as well as rising construction costs.



A **widening insurance protection gap increases uninsured losses for households, heightens credit risk for banks and places greater pressure on government**, ultimately eroding financial system resilience.

By making these system-wide risks visible, the Insurance CVA strengthens the case for proactive resilience investment to reduce risk exposure and support long-term financial stability.

THEME 4: MOBILISING CAPITAL MARKETS

The importance of co-design and coordination

Coordination and project development were identified as critical to building a stronger pipeline of investable projects.

Effective coordination between public and private actors is critical for generating a steady pipeline of adaptation and resilience projects that investors can engage with.

Participants emphasised that co-designing solutions help align objectives, clarify roles and ensure projects are structured in ways that meet both public-policy goals and investor requirements.

Stronger coordination and project development processes can:

- ✓ Support **collaborative design** of adaptation solutions, ensuring public interest outcomes are embedded from the outset.
- ✓ Generate a **more visible and investable project pipeline**, giving investors' confidence in the scale, timing and consistency of opportunities.
- ✓ Improve project structuring and preparation, **reducing transaction costs** and enabling projects to reach investment readiness more quickly.

Mechanisms enabling effective coordination

Participants noted that coordination could be strengthened through **central mechanisms**, such as hubs or platforms, that help to:

- bring stakeholders together
- support project development and technical preparation
- aggregate and package opportunities into investable portfolios

However, participants also stressed that the effectiveness of coordination depends on:

- **clear roles and responsibilities** across agencies and levels of government, reducing duplication and inconsistencies
- **early investor engagement**, so project design reflects realistic financing and risk-allocation
- **sustained leadership** to maintain momentum, particularly for long-term place-based resilience

The following international case studies (page 38) show how specific mechanisms and the strength of co-design and coordination shape the deliver of adaptation and resilience outcomes.

THEME 4: MOBILISING CAPITAL MARKETS

International Case Studies

Highlighting the importance of coordinated approaches in financing adaptation and resilience

Copenhagen

Cloudburst Management Programme and coastal protection plans in Copenhagen, Denmark

This example demonstrates how a clearly defined, long-term adaptation programme cam create a structured pipeline of projects supported by strong coordination between municipalities, utilities and national actors.

This “encouraged early experimentation” and provided “an avenue for cross-government, cross-sector and PPPs.”



Singapore

Singapore utilises a centralised governance model, explicit national adaptation strategies and a dedicated government budget for climate adaptation financing.

This has managed to create a highly coordinated and well-signalled pipeline of resilience projects, enabling clearer investment cases and attracting both public and private capital.



London

London has extensive adaptation planning and regulatory frameworks, creating the outline of a pipeline.

However, fragmented governance, “instability in legislation, policy and regulation,” and lack of cross-government coordination hinder the mobilisation of finance.

This means only when coordination improves do adaptation interventions become more investible.



Reference: Whittaker, S., et al. (2026) From grand challenges to bold solutions: Investor perspectives on financing urban climate change adaptation.

Blended finance can support with scale

When appropriately structured, blended finance can play a catalytic role in mobilising capital for adaptation and resilience. It can be used to:

- **de-risk projects**, particularly in early stages,
- **support more effective allocation** of risks across public and private actors, and
- **bring forward investment** that might otherwise be delayed, accelerating project development and market growth.

However, participants emphasised that its effectiveness depends on:

- **Clearer articulation** of which components of projects should be publicly funded versus privately financed, reducing ambiguity and improving structuring
- **Stronger alignment** between who bears the costs and who benefits, ensuring fairness and incentives for participation
- **Greater openness and familiarity** with blended-finance models across the system, including regulators, public agencies and private investors.

Blended finance is therefore not only a funding tool, but a mechanism to support market creation and role clarity.

Capital-Project matching is critical

Matching capital to projects was identified as **essential to connecting investors with viable adaptation opportunities**.

Participants highlighted the need for stronger systems that better connect capital with investable adaptation and resilience projects. This means improving the ability to:

- ✓ Match projects with the right investors, based on risk appetite, mandates and time horizon.
- ✓ Connect available capital with emerging investment opportunities, ensuring viable projects are not stalled due to information or visibility gaps.

To achieve this, several system wide improvements were identified, including:

- **Better data availability,** particularly on climate risks, projected benefits and performance metrics.
- **Greater project visibility,** with clearer pipelines that investors can track and engage with.
- **Improved investor understanding of risk and return**, especially where adaptation benefits are harder to monetise or involve long-term payoffs

Shared value underpins adaptation investment

Shared value and community engagement were identified as key to building support and legitimacy for adaptation investment.

A shared value framing is essential for mobilising investment in adaptation. Because adaptation investments generate benefits across multiple stakeholders, these benefits must be clearly articulated, communicated and understood to build support across the system.

Maintaining a “license to operate” - especially for place-based resilience projects - is critical. Participants emphasised that investment decisions must actively incorporate community perspectives, including:

- First Nations knowledge and leadership
- Nature based approaches, which can deliver ecological, social and economic co benefits while strengthening resilience.

System-level awareness drives investment shifts

Clear climate risk communication and system awareness were identified as central to shifting behaviour and driving proactive investment.

Improving the communication of climate risk is essential to shifting behaviour across the financial system. Participants noted the need for clearer and more actionable risk information, including:

- Clearly articulating how climate change will affect assets, portfolios and systems, helping decision makers understand material impacts.
- Support for organisations to assess their exposure and identify the need for adaptation, especially where risk is complex or long term.

Enhanced communication enables climate risk to be understood not merely as a compliance issue, but **as a driver of proactive investment.** By making risks more visible, tangible and comparable, the system can move from reactive responses to strategic, forward-looking investment in resilience.

Appendix A

Glossary of Terms

Australian Sustainable Finance Institute

APPENDIX A: GLOSSARY OF TERMS

Term	Definition
Adaptation	Adjustments in natural or human systems in response to actual or expected climate impacts, aimed at moderating harm or exploiting beneficial opportunities (Australian Government, 2025; IIGCC, 2025).
Adaptation financing gap	The adaptation financing gap refers to the difference between adaptation funding requirements and financing being made available.
A&R	Adaptation and Resilience
APRA	Australian Prudential Regulation Authority is a statutory authority of the Australian Government and the prudential regulator of the Australian financial services industry.
ASFI	Australian Sustainable Finance Institute. Australia's peak body for the sustainable finance sector. ASFI works with Australia's largest financial institutions to realign the finance sector and ensure capital flows to activities that will create a sustainable, resilient and inclusive economy.
Avoided Losses	Economic damages prevented as a result of proactive adaptation or resilience investments, often modelled through probabilistic approaches such as Average Annual Loss (Actuaries Institute, 2024).
Average Annual Loss (AAL)	A probabilistic measure of expected annual damage from hazards, commonly used in catastrophe and insurance modelling (Actuaries Institute, 2024; ICA, 2025).
Blended Finance	Blended finance' is a catch-all term that covers financial products or structures that combine different funding sources aimed at lowering the risk profile of specific companies or projects and ultimately attracting private capital (Della Croce et al., 2024).
Capital Mobilisation	The process of directing private and institutional capital toward targeted sectors or activities, including adaptation and resilience investments.
CBA	Cost Benefit Analysis is an economic evaluation method that involves estimating the key benefits and costs from a program or policy.
Climate Proofing	Climate proofing refers to a process that integrates climate change mitigation and adaptation measures into the development of infrastructure projects (Della Croce et al., 2024; European Commission, 2021)
CEFC	Clean Energy Finance Cooperation. CEFC is an Australian Government-owned specialist climate investor focused on clean energy and economy-wide decarbonisation to help achieve Australia's national goal of net zero emissions by 2050.
Discount Rate	The rate used in cost–benefit analysis to convert future costs and benefits into present values.
IGCC	Investor Group on Climate Change is a leading network for Australian and New Zealand investors to understand and respond to the risks and opportunities of climate change.
IIGCC	Institutional Investors Group on Climate Change

APPENDIX A: GLOSSARY OF TERMS

Term	Definition
ICA	Insurance Council of Australia is the representative body of the general insurance industry in Australia, shaping positive outcomes for our members, our people and the community.
Insurance Protection Gap	The difference between the amount of insurance in place and the actual cost of recovery (ICA, 2021)
Mispricing of Physical Climate Risk	Failure of asset prices, lending frameworks or financial models to fully reflect exposure to climate-related hazards (IGCC, 2024).
Market Creation Challenge	The need to deliberately build standards, instruments and governance structures to enable investment in emerging sectors such as adaptation finance (Della Croce et al., 2024).
NAP	National Adaptation Plan. Australia's national framework for reducing climate risk across systems, integrating adaptation into economic and infrastructure planning (Australian Government, 2025).
NCRA	National Climate Risk Assessment. The assessment underpinning the NAP, identifying priority climate risks across interconnected systems (Australian Government, 2025).
Nature-based solutions	Actions to protect, sustainably manage, and restore natural or modified ecosystems to address societal challenges - such as climate change, biodiversity loss, and disaster risks, effectively and adaptively.
PPP	Public – Private Partnership
Physical Climate Risk	Financial and economic risks arising from climate-related hazards such as heatwaves, floods, bushfires and cyclones (IIGCC, 2025).
Prudential Expectations	Regulatory requirements or supervisory guidance governing financial institution risk management and capital adequacy.
Resilience	The ability of systems, primarily customers and communities, to anticipate, absorb, manage, and recover from the impacts of climate change and natural hazards efficiently (Insurance Council of Australia, 2025).
Resilience Classification Framework	A structured system for defining and categorising adaptation and resilience-aligned activities to support capital market mobilisation (Climate Bonds Initiative / UNDRR, 2023).
Resilience-Linked Bond / Loan	Financial instruments that embed performance metrics related to resilience or risk reduction within debt structures (Della Croce et al., 2024).
SIV	Specialist Investment Vehicle. Dedicated investment structures designed to mobilise capital into priority sectors, potentially including adaptation and resilience (IGCC, 2024).
SPV	Special Purpose Vehicle. A legal entity created to isolate financial risk and structure project-based financing, commonly used in infrastructure and blended finance arrangements.

APPENDIX A: GLOSSARY OF TERMS

Term	Definition
Taxonomy (Sustainable Finance Taxonomy)	A formal a classification and definitions tool that offers a science-based, consistent assessment of whether an economic activity is climate-aligned. Credible taxonomies create a common language between corporations and financial institutions.
Transition risk	Transition risks are those associated with the pace and extent at which an organisation manages and adapts to the internal and external pace of change to reduce greenhouse gas emissions and transition to renewable energy (US EPA, 2023; Della Croce et al., 2024).
UNDRR	United Nations Office for Disaster Risk Reduction.
UNEP	United Nations Environment Programme. It is is responsible for coordinating responses to environmental issues within the United Nations System.
UNEP FI	UNEP Finance Initiative. It brings together a large network of banks, insurers and investors that catalyses action across the financial system to deliver more sustainable global economies.
Valuation Reform	Reform of appraisal and financial valuation methodologies to better reflect long-term climate risk and avoided losses (Actuaries Institute, 2024).

Appendix B

Speaker Summaries by order of presentation

Australian Sustainable Finance Institute

APPENDIX B: SPEAKER SUMMARIES

Butch Bacani Head of Insurance, United Nations Environment Programme (UNEP)

The international agenda on adaptation & resilience and UNEP's engagement with the global insurance industry.

The presentation framed adaptation as a core financial and economic issue, not just an environmental one, with a focus on reducing the impacts of climate-related risks such as extreme weather, flooding, and food insecurity.

A central message was the large and growing global adaptation finance gap, particularly in developing countries:

Current investment is far below what is needed to manage climate risks.

Closing this gap delivers significant economic and social benefits:

- Every USD 1 billion invested in coastal protection can avoid ~USD 14 billion in damages.
- Investing USD 16 billion annually in agriculture could prevent ~78 million people from experiencing chronic hunger.

This establishes adaptation as both economically efficient and socially essential.

He also highlighted the emergence of a global insurability crisis: Natural disasters have caused over USD 300 billion in losses annually, with around 60% of those losses remaining uninsured, exposing households, businesses and governments to rising risk.

As risks increase:

- insurance becomes unaffordable or unavailable in high-risk areas
- households and businesses are forced to absorb losses directly

This creates a broader financial constraint: "What is not insurable is not bankable, and not investible." Climate risk is therefore becoming a financial system stability risk.

UNEP proposed a coordinated global response through a new 'International Taskforce on Climate Resilience and Transition Insurance', aimed at strengthening the financial system's ability to manage climate risk.

Key priorities include:

- assessing climate risks across countries, sectors and income groups
- providing guidance to regulators and finance ministries
- strengthening insurance markets and risk-sharing mechanisms
- building government capability (e.g. dedicated climate risk leadership roles)
- improving access to catastrophe modelling and risk data
- ensuring insurance remains accessible and affordable, especially for vulnerable groups and small businesses

Bacani's presentation also highlighted the experience of climate-vulnerable economies (V20).

These countries have lost ~20% of GDP due to climate impacts (2000–2019), and repeated disasters force governments to borrow to rebuild, creating a cycle of rising debt and increasing vulnerability.

UNEP is working with V20 finance ministers through a Sustainable Insurance Facility to support small businesses and improve economic resilience.

The presentation also highlighted UNEP FI – Principle of Sustainable Insurance's **'2026 flagship Global Adaptation and Resilience(A&R) Project'** which aims to strengthen the role of insurance in scaling adaptation finance by:

- demonstrating how insurance can unlock investment in resilient infrastructure
- shifting engagement from post-disaster recovery to pre-disaster resilience
- creating practical guidance for banks, investors, governments and development finance institutions

The insurance sector was positioned as a critical enabler of climate action, with a "triple role":

- **Insurer** – pricing and transferring risk
- **Risk manager** – supporting risk reduction and resilience
- **Investor** – allocating large pools of capital toward climate-aligned activities

The closing message from Butch reinforced urgency and agency:

"As for the future, your task is not to foresee it, but to enable it." **- Antoine de Saint-Exupéry, *Citadelle*, 1948**

APPENDIX B: SPEAKER SUMMARIES

Alix Pearce GM Climate, Social Policy & International Engagement at Insurance Council of Australia (ICA)

Building Australia's Resilient Future. Australia is experiencing rapidly rising climate risks - more severe weather, greater exposure, and increasing vulnerability.

Globally, the insurance protection gap (difference between the amount of insurance in place and the actual cost of recovery) reached US$1.8 trillion in 2022,

Australia faces its own US$12 billion domestic protection gap over the past decade, representing one-third of national extreme-weather losses.

At the household level, 35% of the country's highest-risk homes are in low-income areas, highlighting the intersection of climate risk and social inequality.

The presentation drew on insights from Alix's 2024 Churchill Fellowship report, which explored how Australian insurers can derisk and scale new climate and resilience solutions. The research was conducted across six countries and 11 cities, meeting with more than 120 experts to understand how global communities are responding to a "new era of risk." These insights shaped ICA's strategy for strengthening resilience and future-proofing Australia's insurance system.

The Insurance Climate Change Roadmap sets out five pillars to guide the industry toward net-zero emissions by 2050 and embed resilience into Australia's economy. Key components include:

- Cutting insurer operational emissions and decarbonising supply chains
- Encouraging demand reduction and low-carbon technologies
- Updating underwriting and investment practices to support
- climate-positive choices
- Embedding resilience into the National Construction Code
- Making resilience "investible" by sharing hazard data and influencing risk-based decision-making

These pillars aim to reduce future losses while supporting a more sustainable insurance sector. Pearce highlighted that Australia ranks among the highest globally for climate-driven losses per capita. Flooding is the most significant driver of insurance affordability pressure:

- Out of 242,000 high-risk homes, only 23% hold flood insurance (compared to more than 60% nationally).
- Many are located in low-income areas, with premiums averaging $6,000–$7,000, and in some extreme cases rising above $30,000 annually.
- Risk is concentrated across NSW, Queensland, and Victoria.

The presentation then argued that resilience requires a whole-of-system approach that includes:

Infrastructure investment by strengthening the government's Disaster Ready Fund (infrastructure includes: levees, floodways, mitigation works)

Building homes out of harm's way through improved land-use planning and stronger building codes

Upgrading existing homes through retrofits and providing more buy-backs and managed relocation where no viable alternative exists

All solutions must be supported by robust national natural hazard data and close government–industry collaboration.

The ICA estimates that 242,000 homes and 77,000 commercial properties nationwide face severe or extreme flood risk. To address this, it proposes a $30.15 billion Flood Defence Fund over ten years. The most effective resilience measures vary by region:

High-density areas: major flood infrastructure

Lower-density areas: property-level solutions (e.g., house raising)

Extreme-risk areas: managed relocation and strategic buy-backs

The goal: lower risk, restore affordability, and protect communities at scale.

APPENDIX B: SPEAKER SUMMARIES

Ramona Meyricke Principal at Taylor Fry, Actuaries Institute Climate & Sustainability Practice Committee Chair

Mobilising Investment for Climate Adaptation.

The Adaptation Investment Challenge: Ramona outlined that Australia faces significant and increasing climate-related risks, particularly low-probability but high-impact events.

Traditional decision-making frameworks - especially cost-benefit analysis (CBA) - often undervalue adaptation because:

- Under-allowance for low-probability, high-impact events wherein tail-risk climate events are smoothed out or ignored
- Appraisal periods are too short
- Discount rates are too high
- Broader social and environmental benefits are not included

Meyricke highlighted: “A cost-benefit analysis (CBA) can pass or fail depending on the assumptions used.

A nationally consistent approach to CBA would mean the costs and benefits of adaptation projects are fairly valued and comparable.”

Recommendations to improve adaptation valuation and government decision-making:

- Reduce the social discount rate (from 7% to 5%)
- Apply probabilistic approaches to cost extreme weather risks and calculate expected costs
- Use longer appraisal periods (minimum of 30 years)
- Include social and environmental impacts in assessment of public investments
- Regularly review and maintain best-practice valuation guidance

A National Framework for Adaptation Investment is needed to:

- Identify projects that deliver the best value for money
- Allocating adaptation costs fairly across governments, households, and the private sector
- Transparent reporting to support better planning and budgeting

This framework should be led by the Commonwealth Government, co-developed with states and territories, and closely aligned with the National Adaptation Plan (NAP).

To support the new framework, the presentation recommends:

- Establishing a National Adaptation Investment Framework
- Updating advice on roles and responsibilities across government
- Amending the Climate Change Authority Act 2011 to give the Climate Change Authority responsibility for monitoring and evaluating adaptation policy and outcomes.

Mobilising Public and Private Finance – the presentation highlighted that both sectors have clear incentives to invest in resilience:

- Public finance is most effective where services are essential or where investment can “crowd in” private capital.
- Private-sector benefits include new revenue streams, avoided losses, improved ratings, and lower insurance costs.

Unlocking Australia’s $4+ Trillion Private Finance Sector - Public budgets cannot meet adaptation needs alone. The presentation outlined mechanisms for bringing private capital into public adaptation projects, including:

- Green or resilience sovereign or sub-sovereign bonds
- PPPs and bank-financed infrastructure
- Equity investment in government-backed projects
- Hybrid finance instruments
- Value capture and user-charging models
- Concessional loans and government guarantees

Unlocking private investment is essential to closing Australia’s adaptation investment gap.

To activate private capital at scale, the Actuaries Institute recommends:

- expanding the Australian Sustainable Finance Taxonomy to include clear definitions of “adaptation”, enabling private investment in adaptation.
- The Australian Government and the private sector to co-develop a private adaptation finance strategy that sets out principles for government–industry engagement, including how to structure PPPs for new and upgraded resilience infrastructure.

APPENDIX B: SPEAKER SUMMARIES

Rebecca Mikula-Wright CEO of Investor Group on Climate Change (IGCC)

Activating Private Investment in Adaptation.

Australia must rapidly scale private adaptation investment to avoid capital flight, protect regional economies, and build a robust pipeline of investible projects. Public budgets alone cannot meet national needs.

Scenario analysis is essential for understanding future conditions, asset valuations, and bankability.

Current models lack alignment, consistency, and comparability - a major barrier to scaling private capital.

One of the core messages was the need to create a pipeline of investible projects, which requires:

- Clear national and sector level adaptation plans
- Consistent physical risk data
- Standards for valuing resilience
- Mechanisms to turn avoided losses into investible cashflows

A dominant theme was the need for mechanisms to internalise adaptation benefits, which are often spread across governments, households, insurers, and businesses.

For example:

- A levee reduces loss for residents, insurers, banks, and local economies—but none can finance it alone.
- Many adaptation benefits (e.g., avoided losses, community resilience) are non-cashflow benefits not captured in traditional investment metrics.

The presentation pointed to the Asia Investor Group on Climate Change (AIGCC) dashboard, which shows where adaptation investment is occurring across Asia Pacific and can guide investors seeking opportunities.

This type of tool helps benchmark risk, identify priority regions, and track readiness for investment.

Adaptation is emerging as a major thematic investment opportunity, similar to early renewable energy markets. Trends include:

- Expansion of adaptation/resilience solution providers
- Upgrades to existing infrastructure
- Blended-finance vehicles (e.g., RIV pilots)
- Bonds and resilience-linked instruments

IGCC's overarching recommendations:

- Australia needs a National Adaptation Plan with sector-by-sector resilience goals
- Physical risk information must be consistent, accessible, and nationally coordinated
- Valuation standards and taxonomies must incorporate resilience
- Government and industry must co develop investment cases, pilots, and financing models
- Adaptation should be integrated fully into specialist investment vehicles and infrastructure planning

With these foundations, Australia can shift from fragmented, ad hoc adaptation efforts to a coherent national investment pipeline capable of attracting large scale private capital.

APPENDIX B: SPEAKER SUMMARIES

David Jenkins Global Head of Sustainable Finance at National Australia Bank (NAB)

Mobilising Capital Markets. The presentation highlighted that NAB and IAG co-established the Resilience Investment Vehicle (RIV) in 2019 to explore how public and private capital could jointly finance community resilience projects.

Over three years, the group developed:

- A roadmap to structure resilience investment
- A project evaluation framework

Three pilot projects to test private-sector involvement. The 2023 RIV Insights Report highlighted ongoing barriers and enablers for scaling resilience finance.

Summary of key frameworks and standards for adaptation finance:

- UNDRR Adaptation & Resilience Finance Guide (Apr 2024) – highlighting "UNDRR guide provides an indicative list of financeable adaptation and resilience themes and activities, forming a classification framework, with step-by-step process and guidance for FIs."
- Triple Dividend of Resilience framework – highlighting a study "Covering 320 adaptation and resilience investments across 12 countries, the study finds that every $1 invested in adaptation can yield over $10.50 in benefits across 3 dividend types; avoided losses, economic benefits & social/environmental benefits."
- Climate Bonds Initiative Resilience taxonomy (2025) – highlighting "CBI released Resilience Criteria enabling issuers to seek certification under Climate Bonds Standard v4.3 for climate resilient investments identified through the Climate Bond Resilience Taxonomy (CBRT)"
- ISO 14092:2026 (Jan 2026) – highlighting "ISO released new International Standard providing practical guidance for planning climate change adaptation at local scale"

These initiatives strengthen consistency and credibility in adaptation finance. David also highlighted emerging global markets for resilience bonds including:

- Asian Infrastructure Investment Bank pricing its second Climate Adaptation Bond in January 2026, raising AUD500 million under the AIIB Sustainable Development Bond Framework (article)
- Tokyo Metropolitan Government issuing the world's first certified climate resilience bond (€300m), with the bond being oversubscribed seven times, attracting €2.2 billion in bids from nearly 120 investors (article).
- European Bank for Reconstruction and Development (EBRD) issuing the world's first dedicated climate resilience bond to fund resilient infrastructure, operations, and agriculture (article).

"Dedicated Climate Resilience & Adaptation bonds have been rare but with growing global adaptation and resilience funding gap, together with rising risks of extreme weather events, investors globally continue to seek credible investment opportunities."

Several Australian government bond programs already incorporate adaptation categories (AOFM, NSW TCorp, TCV, WATC, QTC).

Projects funded include:

- Flood mitigation and emergency warning systems
- Climate-resilient infrastructure upgrades
- Water desalination plants
- Nature-based solutions
- Programs to reduce vulnerability to bushfire, drought, and storms

Five major market innovations to accelerate adaptation finance:

- Blended Finance: Uses concessional or catalytic public/philanthropic capital to de-risk adaptation projects and unlock private investment
- Aggregation/Securitisation Solutions: Bundles small-scale resilience projects (e.g., securitising pools of bushfire resilient mortgages, consumer loans for improving climate adaptation/resilience of homes) to reduce transaction costs and attract investors
- Climate Resilience Bonds: Dedicated financing for projects that reduce physical climate risk, aligned with emerging resilience taxonomies and forward-looking climate scenarios.
- Adaptation-linked finance: Loan or bond pricing linked to resilience outcomes (e.g., loans with pricing linked to improvements in flood resilience, water efficiency and/or heat adaptation).
- Parametric Insurance Solutions: Rapid-payout insurance triggered by objective climate variables (rainfall, wind speed), improving cash-flow certainty and project bankability.

Scaling adaptation finance in Australia requires:

- Stronger national frameworks and consistent classification systems
- More innovative financial instruments and risk-sharing models
- Greater mobilisation of private capital through blended, aggregated, and outcomes-linked structures
- Adoption of emerging global standards to ensure credibility