CLIMATEKIC Australia

The Resilience Investment Vehicle

INSIGHTS REPORT

JUNE 2023

PREPARED FOR:

Disclaimer

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Acronyms

ABR	Australian Business Roundtable for Disaster Resilience and Safer Communities
ABV	Australian Business Volunteers
ANZEMC	Australia-New Zealand Emergency Management Committee
BLERF	Bushfire Local Economic Recovery Fund (NSW)
CSIRO	Commonwealth Scientific and Industrial Research Organisation
NAB	National Australia Bank
NAP	National Action Plan for implementation of the National Disaster Risk Reduction Framework
NEMA	National Emergency Management Agency
NDRRF	National Disaster Risk Reduction Framework
NSW OEM	New South Wales Office of Emergency Management (now Resilience NSW)
QRA	Queensland Reconstruction Authority
RIV	Resilience Investment Vehicle

Acknowledgements

The report was prepared by Climate-KIC Australia on behalf of NAB and IAG, with input and expertise from the following organisations:

Workshop Participants and Report Writers

IAG

CSIRO

NAB

Workshops Presenters

IAG

Resilient Building Council

NAB

Queensland Government

Reviewers

Australian Business Volunteers

IAG

NAB

National Emergency Management Agency

Queensland Government

Queensland Reconstruction Authority

Purpose of this report

The Resilience Investment Vehicle (RIV) was convened by Insurance Australia Group (IAG) and National Australia Bank (NAB) with a vision of the future where private finance and investment, alongside public money, flows to resilience projects that help communities better withstand and recover from the impacts of disasters and adapt to climate change. **This report summarises the work undertaken through the RIV and the insights and learnings of IAG and NAB as convenors and stakeholders.**

We, IAG and NAB, worked with the Commonwealth Scientific and Industrial Research Organisation (CSIRO), state government agencies and the Australian Government to pilot resilience investment.

The RIV commenced in 2019, and after nearly three years IAG and NAB have reflected on what happened, what we learned and what we, with others, can now do to bring more funding to resilience–building projects. These learnings are relevant to any organisation seeking to plan, develop, implement or fund resilience activities that could benefit from investment from the private sector, including:

Research entities developing tools and approaches	**Government agencies delivering funding packages**	**Not-for-profits working with communities**	**Finance sector with private capital to invest**

We recognise that this pilot, with a few key stakeholders, is not enough. We need to see a system shift. We now look to the Australian Government to establish an enabling environment that encourages private sector investment in resilience-building projects.

What do we mean by 'resilience'?

There is no universally agreed definition of 'resilience' in the context of disasters and climate change. For the Resilience Investment Vehicle, we consider increasing the flow of capital to projects aimed at increasing the capacity of communities to cope with, respond to and recover from the impacts of disasters and climate change. IAG and NAB looked at projects designed to reduce the risk that disasters and climate change will negatively impact communities, the environment and the economy. This could include activities that aim to:

- reduce the costs of rebuilding after disasters, for example through planning, retrofitting and nature-based solutions,
- increase the capacity for business and service continuity,
- build social capital through education and skills development on disaster preparation and risk mitigation, or
- protect and restore the natural environment after a disaster or in preparation for future disasters.

Purpose of this report

AFTER NEARLY THREE YEARS, WE ASKED PARTNERS AND STAKEHOLDERS TO REFLECT ON THE RIV

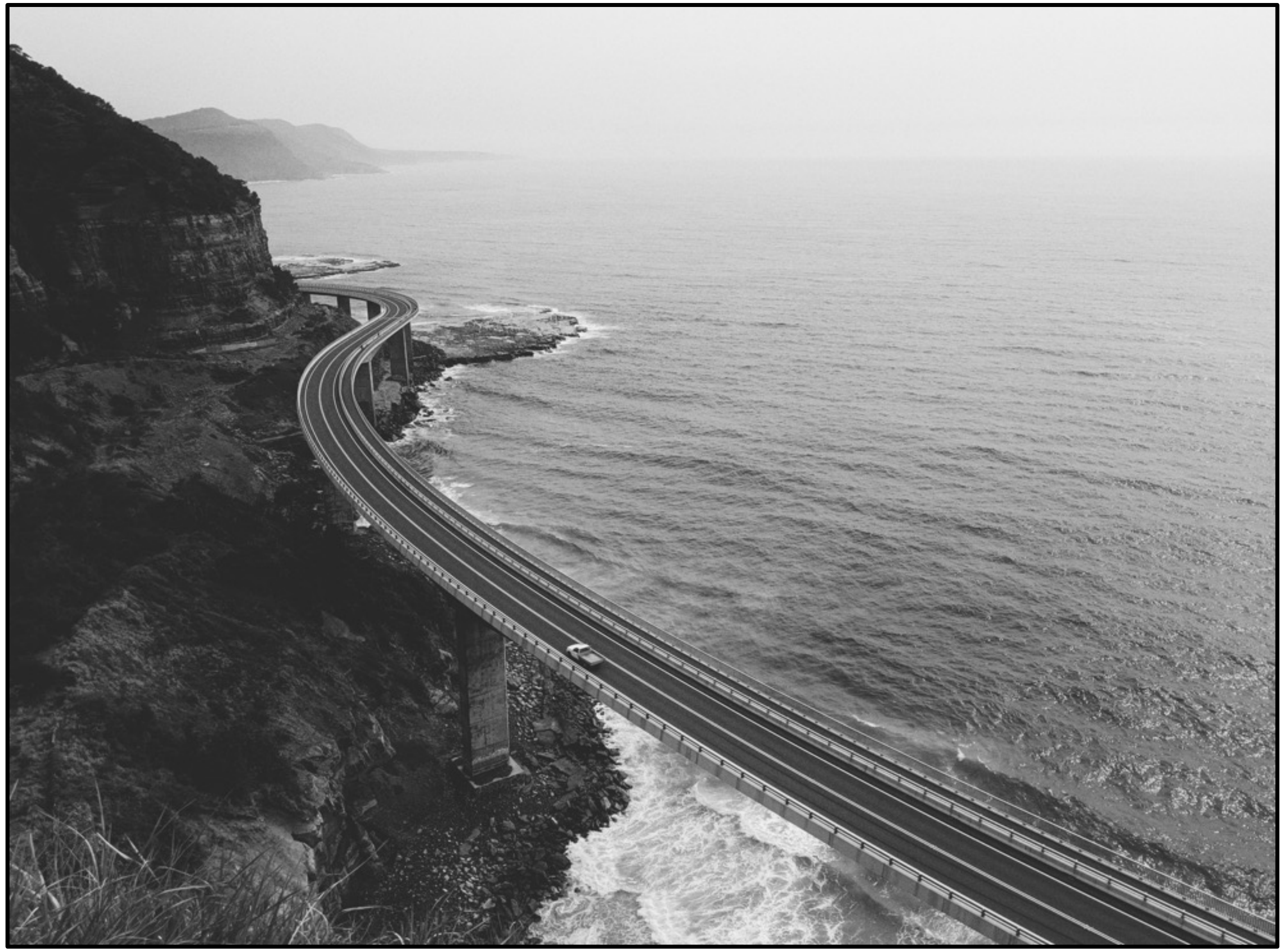
Uncovering what we have learned about resilience investment

The RIV was an innovative process operating in a changing and uncertain landscape. As the pilot projects reached a natural conclusion, IAG and NAB wanted to take time to reflect on what we learned through the RIV and draw on these learnings to help shape the ongoing work on resilience and adaptation investment in Australia.

We partnered with Climate-KIC Australia to hold multi-day reflective workshops where we asked the people involved in developing, designing and implementing the RIV to:

- Share experiences and insights from their work on the RIV, and
- Consider how the RIV functioned from a governance perspective and through place-based pilot projects.

After the workshops, a multi-organisational team worked collaboratively to analyse the workshop data to summarise the process of the RIV and identify the insights outlined in this report.



Executive Summary

In recent years, we have seen the impacts and costs of climate change and disasters increasing at an alarming rate. Projects that build resilience to climate and disaster impacts are happening, but a step change in the way projects are funded is needed to keep up with impacts that are already being felt. Combining private and public funding can help to address the shortfall in resilience funding. To investigate this, NAB and IAG worked with key stakeholders to launch the Resilience Investment Vehicle (RIV) in 2019.

Our goal was to investigate how public and private capital could be directed to finance new and existing projects that build resilience, reduce disaster risk and derive a financial return for investors.

We explored ways to use private sector investment goals to build disaster resilience

NAB and IAG brought together stakeholders from different sectors who were interested in finding ways to increase investment in resilience. To investigate a vehicle to bring private sector funding to resilience projects we developed:

- A roadmap to reach a resilience investment deal, and
- A project prioritisation framework to consider a pipeline of investable projects.

We then identified three resilience projects to practically explore ways to bring private sector funding to resilience investment.

We reflected on lessons learned to identify a pathway forward

After nearly three years investigating resilience investment through pilot projects, we held workshops with key stakeholders to reflect on the RIV. Through this reflective process, we have identified key insights that we believe can help shape the next steps for resilience investment.

We clarified the resilience investment challenge

We tested the theory that resilience projects with a clear financial return on investment existed, but the formal structures were not in place to enable the private sector to capitalise on them. However, we learned from this experience that clear revenue streams were often missing and projects were too small to meet the requirements from institutional investors.

Revenue	Scale
A lack of clear, low risk revenue streams driven by measurable resilience outcomes	Small scale, local projects were difficult to aggregate to a size of investment suitable for institutional investors

Executive Summary

Different work at different scales

Through the process of identifying suitable pilot projects and testing a resilience investment vehicle in different contexts, we have identified two potential opportunities for future work to overcome the barriers of scale and revenue generation:

- At the **household level**, exploring the opportunity to use the Bushfire Resilience Star Rating Tool to support home retrofitting activities and a resilience finance ecosystem.
- More experimental and exploratory collaboration to address the challenges of institutional scale investment in **community level resilience** projects.

Each will require collaborative efforts to achieve large-scale impacts.

Key activities, stakeholders and enablers

Investment in resilience is a complex and evolving domain. To meet the challenges ahead, we have identified a need for three key activities to be interconnected in an ongoing way:

Convene diverse stakeholders	Develop frameworks for scale	Develop investable projects

Shifting the systems that shape investment in resilience will require leadership from government, a whole-of-industry collaboration from the finance sector, and input from community and technical experts.

To enable this work, it requires champions working in organisational structures that empower them to innovate. We will also require consistent and accessible data for informed decision-making.

Collaboration to support investment in community and household level resilience will enable us to withstand the impacts of climate change and disasters both now and into the future.

Next steps

The national and global dialogue has shifted in recent years, and leaders in all sectors have began to think broadly and strategically about how to respond to challenges we are facing. A coalition of willing collaborators is required to continue this work, and leadership from government at national, state and local levels to find new ways to finance projects that build resilience disasters in a changing climate.

The Resilience Investment Vehicle

OUR MOTIVATION

The Resilience Investment Vehicle

DIRECTING PUBLIC AND PRIVATE CAPITAL TO BUILD RESILIENCE

The impacts of climate change are already being felt in Australian communities and will continue to increase, even as nationally and globally work is underway to reduce emissions and transition towards net zero. Over the last decade, the costs of disasters have increased dramatically. As the impacts and the costs of disasters continue to rise, investing early in resilience reduces the impacts of a disaster and the costs of recovery. Every dollar invested in resilience is estimated to save up to $10 in recovery[1], but the current rate of investment is insufficient to respond to the impacts of climate change and disasters that are already being felt and those that are to come[2]. The private sector can help bridge the gap between current investment and what is needed for a climate-resilient future.

As an insurer and bank who are exposed across the economy, disasters can also have a significant financial impact on our organisations. We wanted to find ways to enable private capital to supplement and work alongside public funding for adaptation and resilience projects.

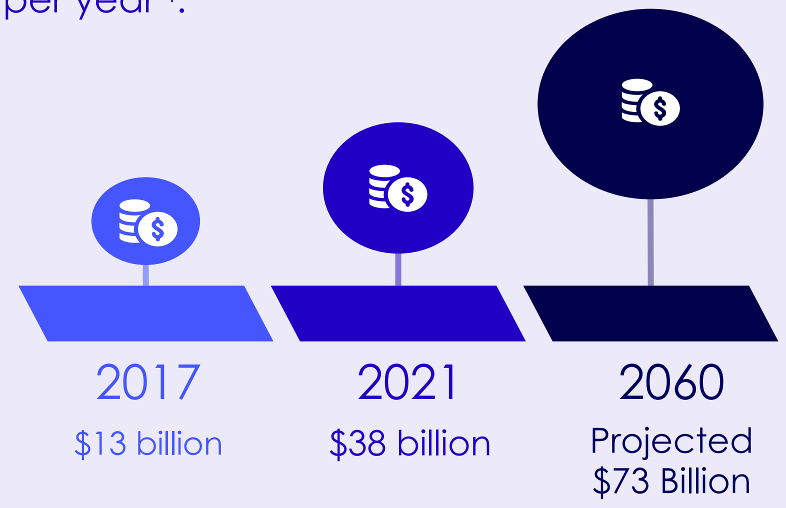
In 2019, we convened the RIV, bringing cross-sectoral stakeholders together to **investigate how public and private capital could be directed to finance new and existing infrastructure that:**

- **builds resilience,**
- **reduces disaster risk, and critically**
- **derives a financial return for investors.**

The cost of disasters in Australia

In a 2017 Australian Business Roundtable for Disaster Resilience & Safer Communities (ABR) report by Deloitte Access Economics, the estimated cost of natural disasters would reach $39 billion each year by 2050[3].

In 2021, it was estimated that disasters already cost the Australian economy $38 billion a year on average. In fact, the latest ABR report from 2021 now estimates that by 2060, disasters will cost Australia $73 billion per year[4].



1. Adapt Now: A global call for leadership on climate resilience, Global Commission on Adaptation 2019
2. United Nations Environment Programme (2022). *Adaptation Gap Report 2022: Too Little, Too Slow – Climate adaptation failure puts world at risk 2022*
3. Building resilience to natural disasters in our states and territories, Australian Business Roundtable for Disaster Resilience & Safer Communities, Deloitte Access Economics 2017
4. Special report: Update to the economic costs of natural disasters in Australia, Australian Business Roundtable for Disaster Resilience and Safer Communities, Deloitte Access 2021

We saw the need to invest now to build resilience

DISASTERS ARE BECOMING MORE FREQUENT AND SEVERE, AND THE COSTS ARE MOUNTING

Efforts to build resilience have been increasing incrementally, but a shortfall in funding is preventing progress at the scale and speed needed to respond to growing climate risks.

Black Summer Bushfires 2019-21

Over the course of the catastrophic 2019-21 bushfire season there were more than 11,400 bush and grass fires across New South Wales alone. The fires burnt 6.2 per cent of the state [5].

Through the season 34 lives were lost, 2,448 homes were destroyed, and 5.5 million hectares of land was burnt, resulting in $5.47 billion in insured personal and business losses [6]. The impact on communities, farmers, local businesses, wildlife and bushland was unprecedented.

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Queensland and New South Wales floods 2022

In February and March of 2022 Coastal New South Wales (NSW) and South East Queensland were severely affected by flood.

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At least 23 people died in the flooding. In Queensland, more than 20,000 homes and businesses were flooded while in NSW more than 5000 homes were affected [7].

It is estimated that these floods are the costliest ever to affect Australia. The event is estimated to have cost $5.45 billion in insured losses by September 2022, with over 100,000 claims still outstanding [8].

Sydney residents in the Hawkesbury Nepean were also affected and have since been flooded twice more by mid 2022.

5. https://knowledge.aidr.org.au/resources/black-summer-bushfires-nsw-2019-20/
6. Insurance Council of Australia Insurance Catastrophe Resilience Report: 2020-21
7. https://disasterphilanthropy.org/disasters/2022-australian-flooding/
8. https://insurancecouncil.com.au/news-hub/current-catastrophes/catastrophe-221-storms-in-south-east-qld-and-northern-nsw/

The Resilience Investment Vehicle

OUR APPROACH

Our approach

The RIV was launched in 2019. It was a key activity in implementing Priority 3 ‘enhanced investment’ under the National Disaster Risk Reduction Framework (NDRRF), which guides Australia’s national approach to reducing disaster risk. It was included in the first National Action Plan of the NDRRF.

NAB and IAG convened a group that initially included CSIRO and the Australia New Zealand Emergency Management Committee (ANZEMC).

These partners collaborated to establish a pilot for investment that increases community-wide resilience. This included considering financing built, natural and social infrastructure that is new, requires maintenance and/or adaptation and that in combination addresses natural hazards and climate change, and provided a financial return.

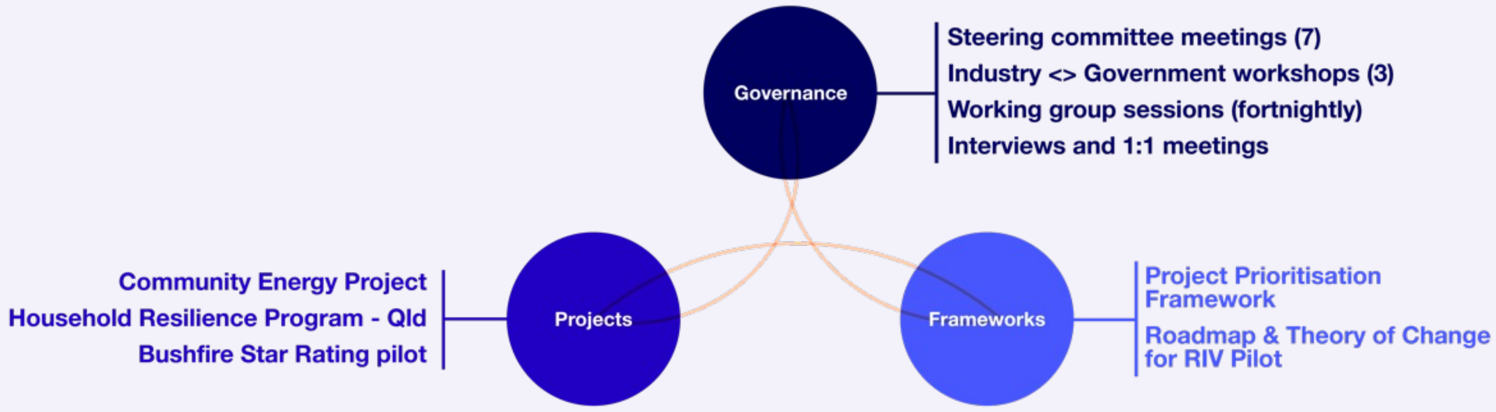
Financial return was considered particularly important to ensure the long-term financial sustainability of the resilience activities and to unlock investment at scale.

Specific hazards in the pilot scope were:

floods | **cyclones** | **bushfires** | **heat stress** | **drought** | **coastal inundation**

The RIV required work across a number of domains, including:

- Convening diverse stakeholders, including government and community with the shared goal to finance resilience,
- Developing frameworks, models, and methods, and
- Identifying and exploring projects for impact.



We established governance for collaboration

INITIATING THE RIV AND CONVENING CROSS-SECTORAL STAKEHOLDERS

IAG and NAB stepped outside our traditional roles as a bank and insurer to provide governance to the ongoing RIV pilot. We managed governance structures that brought together public and private sector stakeholders.

Stakeholders in the RIV included NAB, IAG, CSIRO, the National Emergency Management Agency (NEMA, formerly Emergency Management Australia and the National Recovery and Resilience Agency, NRRA), the ANZEMC Mitigation and Risk Subcommittee, represented through the NSW Office of Emergency Management (later Resilience NSW) and Queensland Reconstruction Authority (QRA). This group worked collaboratively on the complex and cross-sectoral challenge of increasing private investment to fund disaster and climate resilience projects.

Governance structures for cross-sectoral collaboration	
Steering Committee	Senior representatives from NAB, IAG, CSIRO and NEMA (formerly Emergency Management Australia and the National Recovery and Resilience Agency, NRRA) who were responsible for long-term strategic direction and approval of work at each stage of the roadmap.
Working Group	Representatives of Steering Committee organisations and other key partners met weekly and were responsible for delivery of the roadmap deliverables.
Project Governance Group	Representatives from Steering Committee organisations met monthly to undertake monitoring of roadmap deliverables and identify emerging and key risks.
Advisory Reference Group	Strategically aligned partners provided input, policy context, knowledge sharing and funding support.

The governance structures established created valuable opportunities for diverse stakeholders to connect, engage, negotiate and collaborate. Collaboration is key – building resilience to disaster impacts, particularly in the context of climate change, is a complex undertaking. Much work has already been done, and much more work is needed. Working collaboratively across sectors will ensure that efforts and investments are complementary, and that time and resources are not wasted with overlapping or competing approaches.

We investigated the challenge and the landscape

DISCOVERY AND EARLY STAKEHOLDER ENGAGEMENT TO UNDERSTAND THE RESILIENCE INVESTMENT LANDSCAPE

Throughout the project we carried out extensive consultation and exploratory activities. We worked to understand what was happening in the resilience investment landscape, what was working and what wasn't.

We began with a large-scale interview and engagement program. More than 50 interviews with key stakeholders were undertaken to:

- Understand the areas of resilience building momentum,
- Identify key partners and stakeholders, and
- Understand pilot barriers and enablers.

Along the way, at strategic decision points, we also convened cross-sector workshops to problem-solve and co-design ways to move forward.

Stakeholders involved

Government: Federal, state and local

Research and innovation institutions: including CSIRO and James Cook University

Industry: Finance sector representatives

NGOs: Organisations involved in climate resilience and adaptation investment programs in Australia and globally

We engaged broadly through workshops

DIVERSE STAKEHOLDERS PARTICIPATED IN WORKSHOPS TO DESIGN, PLAN AND IMPLEMENT THE RIV

Interagency workshop to refine the opportunity

- Consider potential projects to pilot a resilience investment vehicle.
- Identify barriers and enablers.
- Co-design solutions to address barriers.
- Identify partners and stakeholders to drive forward work to address barriers and progress pilot.

Roadmap workshop to strategise and plan

- Define the purpose of the Working Group responsible for roadmap development and delivery, including capabilities required of the members.
- Develop draft roadmap for the RIV including – prioritised work, milestones, accountabilities, and dependencies involved in delivering the pilot.

Public/private collaboration workshop to explore collaboration on pilot projects and shape the resilience ecosystem

From a Government perspective

- Understand how government can support private sector engagement.
- Identify roles and responsibilities.
- Learn from the pilot projects and find out how these can be translated into policy, to be scaled up and out, nationally.
- Explore how to create the policy settings designed to better value resilience, unlock private capital for resilience initiatives, and create value.

From a private sector perspective

- Share learning and insights from the RIV.
- To better understand each other's objectives and aims.
- Identify areas for collaboration to create well functioning resilience ecosystem that supports climate resilient communities across Australia.

We developed frameworks to catalyse action

TO SCOPE AND PLAN THE RIV, WE DEVELOPED TWO FRAMEWORKS

1. Roadmap and theory of change to identify the RIV's goals, outcomes, and a roadmap to reach a resilience investment deal

Innovation experts Asymmetric Innovation were engaged to explore the current state understanding of the resilience investment environment through a series of interviews with key stakeholders and additional desktop research activities.

This report created a theory of change for the RIV and a roadmap of next steps that:

- defined what the resilience investment environment is in this context,
- uncovered barriers and opportunities in the short-term pathway to a minimum viable RIV Pilot,
- identified stakeholders critical to long-term success, and
- developed communications collateral that explains the value proposition of the RIV from multiple stakeholder perspectives.

This process ensured early on that the RIV partners had a shared understanding of roles and responsibilities, barriers, opportunities and potential pathways towards achieving systemic change.

2. Project prioritisation framework to create a pipeline of potential projects for investment as part of the pilot

Sustainability consultants Arup were engaged to assist the Working Group to develop a project prioritisation framework to identify and assess potential resilient infrastructure projects for a pilot.

The prioritisation framework identified project opportunities that developed community resilience and had the potential to generate a financial return. However, projects within scope were early stage and formative, requiring collaboration to shape them for investment.

We used the prioritisation framework to assess and refine the initial pipeline of over thirty promising project ideas to identify three to take to pilot. These were identified as the most suitable to allow us to test the role of the RIV in resilience projects, and will be discussed in detail in the next section. Once we moved beyond a top-down assessment to take into account the place and local complexities surrounding each project, we were able to gain insights from practice about how to enable private sector resilience investment.

We also identified ten projects that, with some development, could form a project pipeline. These diverse projects included bushfire recovery for telecommunications, water infrastructure and the circular economy, a water bank and food production hubs.

We explored through pilot projects

PROJECTS ADOPTED A LOCAL, PLACE-BASED APPROACH

When we began the RIV, we knew that we wanted to find ways to invest in resilience. We were looking for projects that provided a return on investment with tangible resilience benefits.

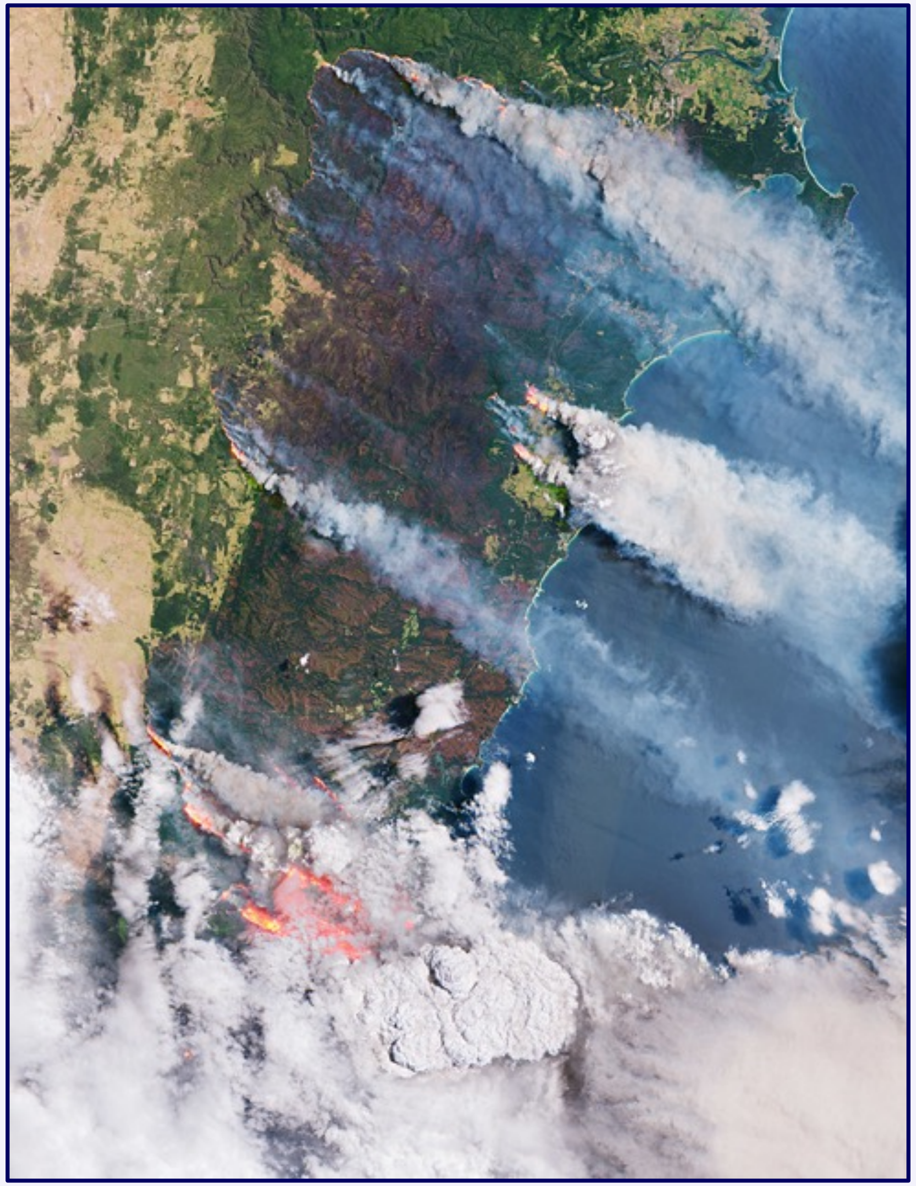
We used the project prioritisation framework to identify projects for further investigation. Each project was scored against set criteria in the project prioritisation framework, including whether it could be scaled up, and whether it could provide a return on investment, as well as the projected timeframe of the project and its resilience benefits.

Three projects were identified:

- The Household Resilience Program,
- The Cobargo Resilience Project, and
- The Bushfire Resilience Star Rating System.

These projects were chosen to help us understand what is required to develop resilience investment projects, and what is needed to build the conditions of a national resilience investment market. Building on the desk-based project evaluation, we then sought to explore how to bring private capital to these projects on the ground in communities.

In the following chapters we describe these projects and our experience of engaging them in the RIV.



Copernicus Sentinel data (2019), processed by ESA, CC BY-SA 3.0 IGO

We explored through pilot projects

ENCOURAGING CYCLONE RESILIENCE RETROFITS IN QUEENSLAND

Household Resilience Program

The Household Resilience Program is an ongoing Queensland Government funded retrofit program that provides grants for households to install scientifically proven measures to increase resilience to cyclones.

Designed by James Cook University's cyclone testing station, and administered by the Queensland Government, the program involves a menu of options scientifically proven to increase resilience to cyclones such as new roofs, double glazing on windows, securing carports, new doors.

IAG and NAB considered running pilots based on this model using private finance. However, if we pursued a model with only two finance sector stakeholders and no administration provided by government, the costs of handling applications, supporting interested homeowners and costs of administering the scheme such as a call centre or advice line were significant and the reach of the program would have been limited to the customer bases of IAG and NAB.

Ultimately, we found that it was not commercially viable for a single bank and insurer to undertake without government support. At the same time, directing government funding to administer an initiative that did not involve more finance sector stakeholders and their customer bases was not considered a viable or effective use of public money.

We explored potential projects

PIVOTING OUR APPROACH AS COMMUNITY LED THEIR OWN RESILIENCE JOURNEY

Community Resilience Project

Cobargo was hit by the catastrophic 'Black Summer' bushfires on December 31st, 2019. The Cobargo Clean Energy Transition project was identified as a potential RIV pilot project using project prioritisation framework developed by Arup. The project involved a debt facility to enable the community to scope, design, approve and deliver a community-owned renewable microgrid to increase energy security.

To progress the goals of the RIV, the NAB Foundation, IAG and Arup contributed funding to Australian Business Volunteers (ABV) to hold a visioning workshop and stream of activities that brought volunteers together in genuine consultation and engagement with the community. The Cobargo Community Bushfire Recovery Fund also provided funding for this project, ensuring ownership and leadership from within the community itself.

Through this community-led process, the micro-grid project shortlisted using the RIV project prioritisation framework was not progressed. As well as logistical challenges around aligning with local and regional energy strategies, it became clear that the community ownership of the micro-grid and the development of the project by late 2020 was not "investment ready". Our desktop based analysis was a useful starting point, but ABV's community-led approach, which allowed for local context and complexity, identified options that better met the needs of the community at that time.

It was clear that other projects would better support Cobargo's recovery, and ABV supported the community to access New South Wales Government's Bushfire Local Economic Recovery Fund to rebuild to revitalise the main street. This includes the development of the multipurpose Cobargo Bushfire Resilience Centre that will commemorate the bushfires and what the loss meant to the town.

The micro-grid project has matured through multiple government funding allocations and in 2023 will be looking to find appropriate investment as part of Cobargo's vision for energy resilience. The micro-grid is a great example of a community being supported to mature a project at its own pace and with its own leadership

This process highlighted that communities must be the ones to identify, prioritise, and implement community resilience projects. Intermediary organisations like ABV facilitate communities coming together to ideate and mature their resilience projects through all phases of project development.

We explored through pilot projects

ENCOURAGING BUSHFIRE RESILIENCE RETROFITS IN SHOALHAVEN, NEW SOUTH WALES

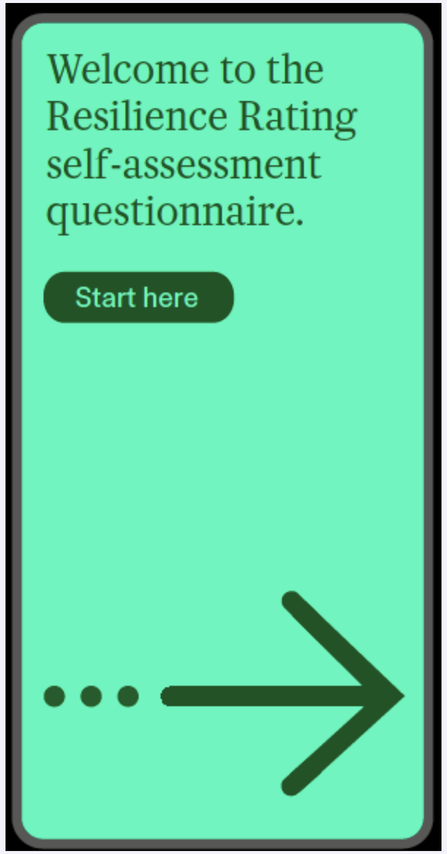
Bushfire Resilience Star Rating System

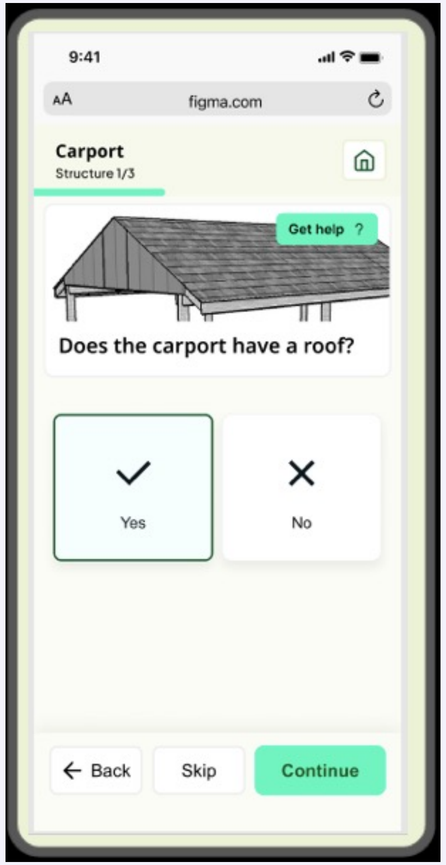
We are involved, alongside BlueScope Steel, in supporting the Resilient Building Council (formerly the Bushfire Building Council of Australia) to develop and test a bushfire resilience rating system. The rating system helps homeowners to understand their bushfire risk, and take evidence-based, site-specific actions to increase their resilience.

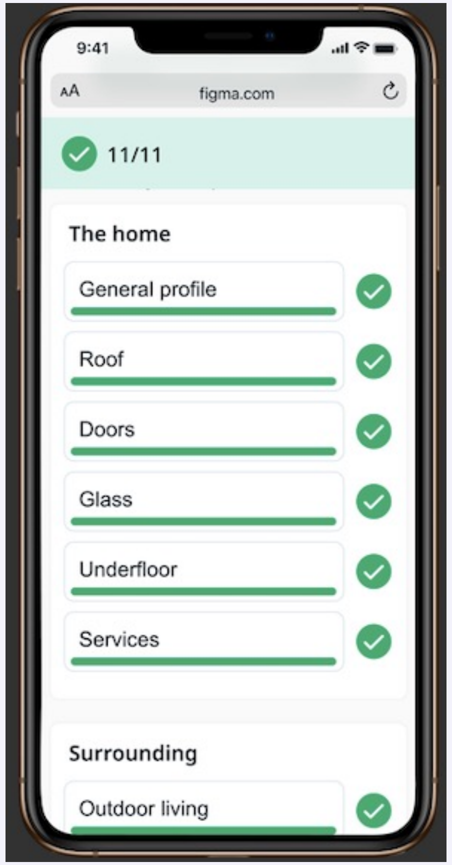
To develop the rating system, the Resilient Building Council engaged with the community and households in the Shoalhaven area and completed an assessment case study of 145 homes.

The RIV explored the opportunity to provide debt financing to mortgage holders to upgrade the resilience of their homes, with their homes acting as collateral for future resilience themed bond issuances. The links between resilience upgrades and insurance premium discounts were also explored, where home-owners can be rewarded for making their home more likely to withstand a disaster with reduced insurance premiums.

This model is now being progressed in a pilot and an app funded by NEMA through the Disaster Risk Reduction Package. It will be available for free to all home-owners during the course of 2023.







The Resilience Investment Vehicle

INSIGHTS FROM PRACTICAL EXPERIENCE

We learned from practical experience

PILOT PROJECTS IDENTIFIED KEY BARRIERS TO RESILIENCE INVESTMENT

Across all this work we have faced barriers to achieving a return on resilience investment, but the RIV collaboration has clarified our view on what is needed for progress.

We now further understand the problem at different levels and the ways of working, partners and enablers required for success. We believe that what we have learnt from this experience can usefully inform future work on resilience investment.

Key amongst our learnings is a clear understanding that more businesses, government agencies at all levels and communities will need to be involved to reach the scale of investment required to address the resilience challenge we face.

At the heart of a resilience investment vehicle is the challenge of matching the large size of investment required for institutional investors with the smaller, place-based projects that communities need.

We applied our project prioritisation framework to over 30 potential resilience projects. Projects were scored against set criteria including whether they could be scaled-up, and whether they could provide a return on investment, as well as the projected timeframe of the project and its resilience benefits.

Despite an extensive search, no projects were identified that met these criteria and were sufficiently developed to be funding ready.

In applying our prioritisation framework, projects that did not have a well understood or poor financial return profile were automatically discounted, even though they may have been most impactful in terms of building resilience.

Many of the projects identified were also too small to be suitable for institutional investment and were not sufficiently scoped or assessed to allow investors to engage.

Applying the project prioritisation framework allowed us to identify two critical barriers that projects struggled to overcome:

1. Lack of a clear, low risk revenue stream that could be attached to measurable resilience outcomes, and
2. Small scale, local resilience projects were difficult to aggregate to a size of investment suitable for institutional investors

Many private sector investors are seeking investments of more than $100 million, while a project with the potential to increase the resilience of a community or a piece of infrastructure could require an investment of as little as $10,000.

We learned from the practical experience

The level of the interventions turned out to be a defining characteristic of how we were able to identify and develop projects.

We expected that most of our work would focus on bringing private capital to fund large-scale infrastructure projects that boosted resilience at the regional and community level. However, throughout the process we found we were most able to make progress at the household level with a project that targets home retrofits.

Different levels present different challenges and opportunities for creating an institutional size resilient investment vehicle.

At the **household level**, institutional-sized investment can be reached by packaging up 1000s of individual household loans into a resilience bond. The ability to reach institutional sized investment relies on having products that are similar enough to be packaged together into a large investment that is appealing to institutional investors.

At the **community level,** creating an investment opportunity that is suitable for institutional investors becomes more complicated. Community projects are often in the cost range of $10k to 10M. Small projects like this may be capable of generating a return on investment, but the administration and analysis required for each investable project is inefficient. Aggregating community level projects, similar to the process of packaging individual household loans together, creates the size of investment needed to be practical for institutional investors to engage with.

However, community level resilience projects are bespoke as they have to meet the needs, values, and risks specific to the local context. Packaging them up is complex, and there is often not an organisation who is performing the role of aggregator. In addition, many of these projects are not designed with a financial return in mind as their purpose is to achieve community resilience outcomes.

At the large-scale infrastructure level the size of investment suits institutional investors, however the design of projects is tightly regulated and cost-margins closely monitored. Measuring and demonstrating resilience benefits remains a challenge and it is not yet standard practice to require infrastructure projects to be designed with demonstrable resilience outcomes.

Work is underway in this space to address these challenges. For example, QRA's Betterment Program is working to demonstrate how investment in resilient infrastructure saves money and can deliver other benefits to communities. Infrastructure Australia have also included resilience as a sustainability consideration in the Assessment Framework for infrastructure projects.

While these efforts are a step in the right direction there is still no pipeline of investment-ready infrastructure projects with demonstrable resilience benefits.

Insight 1: Ongoing collaboration at two levels

INTERVENTIONS AT DIFFERENT LEVELS TO CONNECT INVESTMENT TO PROJECTS

The experience during the RIV has led us to identify two levels of resilience investment as the focus of further collaboration. They will focus on different levels and will require different but connected collaborative efforts to bring private sector funding to resilience projects.

These two different levels for action are:

1. At the **household level**, exploring the opportunity to use private sector funding to support home retrofitting activities informed by the Bushfire Resilience Star Rating Tool.
2. More experimental and exploratory collaboration to continue looking for ways to create **community level** resilience projects that are large enough to generate a return for investors.

At each of the two levels we have identified three key activities for resilience innovation and the key stakeholder groups to be engaged.

Through the RIV we have identified the need for three key activities to be interconnected in an ongoing way:

- Convening stakeholders,
- Developing frameworks for scale, and
- Developing investable projects.

There are three key groups that need to participate in the three key activities to encourage resilience investment:

- Government – to provide leadership and convene cross-sectoral stakeholders at a systems level.
- Industry – engaging in a whole-of-industry way to achieve scale.
- Intermediaries – to provide technical expertise and support effective engagement with communities.

Insight 1: Ongoing collaboration at two levels

HOUSEHOLD LEVEL RESILIENCE

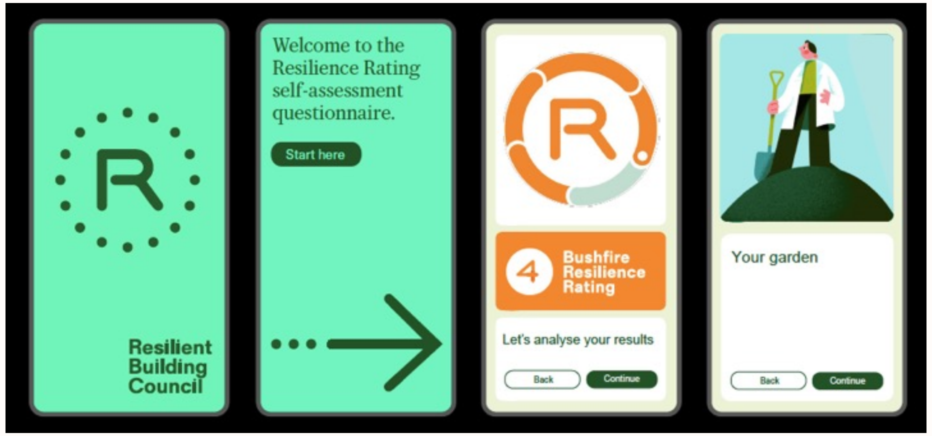
The RIV pilot was able to make headway in identifying resilience finance options at the household level.

The Bushfire Resilience Star Rating project scored highly in our project prioritisation framework as it was place-based and presented a good opportunity for investment and scaling. The Bushfire Resilience Rating Tool created a framework to measure the resilience of a house and the consequent improvement to its resilience from retrofits. This allows banks and insurers to translate these improvements into financial risk reductions and provide loan facilities and other discounts to fund retrofitting activities.

We found that the Bushfire Resilience Star Rating could allow banks to provide mortgage top-ups for home owners at a discounted rate to upgrade their homes. These mortgages can be packaged up as resilience bonds, similar to green bonds.

The links between resilience upgrades and reductions in insurance premiums is also being explored.

Work is already underway to expand the scope of the Resilience Star Rating Tool to measure and identify interventions that build resilience to all hazards, not just bushfires.



We see an opportunity to increase the uptake of resilient home retrofits.

Increasing the number of resilient homes can increase the resilience of the broader community. This reduces the time and effort needed for individuals and communities to recover from disasters. This is one element of the work required for resilience-building at the community level.

Therefore, a whole-of-industry approach is needed – that is these products need to be mainstream. This will need to be supported with strong leadership and a well-resourced convening role from government.

Insight 1: Ongoing collaboration at two levels

COMMUNITY LEVEL PROJECTS

To achieve resilience investment at the community level, we need to continue applying the activities of resilience finance innovation, engage the stakeholders, and activate the enablers.

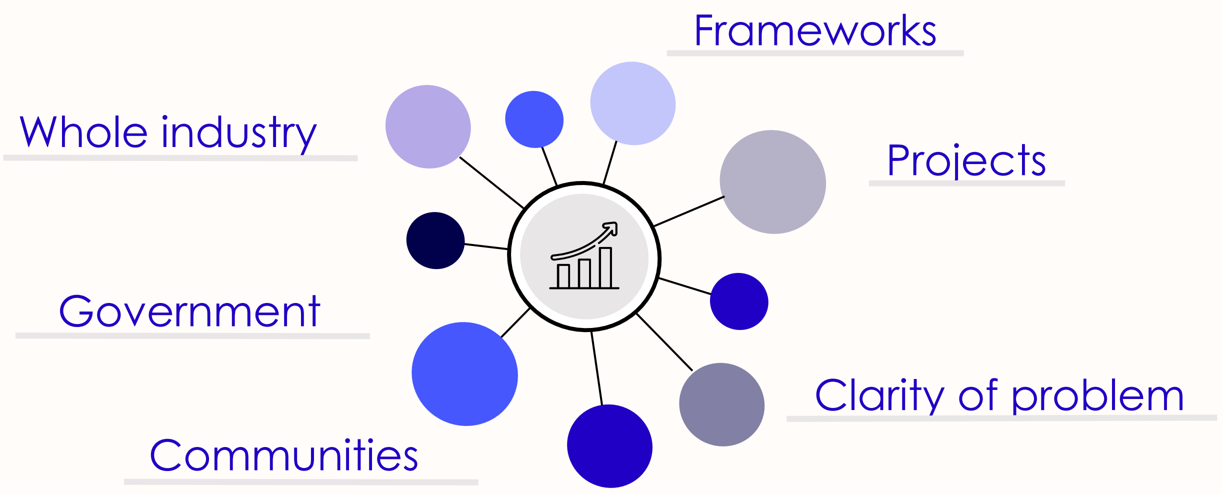
Coordinated effort is required to address the financing challenge for projects to attract institutional-scale private investment. **This will require innovation from both finance providers and project developers**.

On the finance side, our sector has so far sought to apply existing financial mechanisms to the new field of resilience investment.

The experience gained through the RIV pilot projects has shown that iterating old approaches will be insufficient for community level investments.

The collaboration will have to investigate how to evaluate and invest in complex portfolios of projects that achieve multiple outcomes and financial returns by addressing multiple issues at once – for example by ensuring that projects include both resilience and sustainability measures.

Financial frameworks will need to innovate to be able to accommodate new project structures and measurement approaches.



Further, true co-investment from public and private sectors will need to be investigated and existing models evolved.

We need to find ways to identify value flows which are both a public good and investable, where risk and reward can be shared between the private sector and the community.

To encourage experimentation additional stakeholders beyond traditional investors may need to be engaged, including angel investors, venture capitalists, and community development funds.

Insight 1: Ongoing collaboration at two levels

COMMUNITY LEVEL PROJECTS

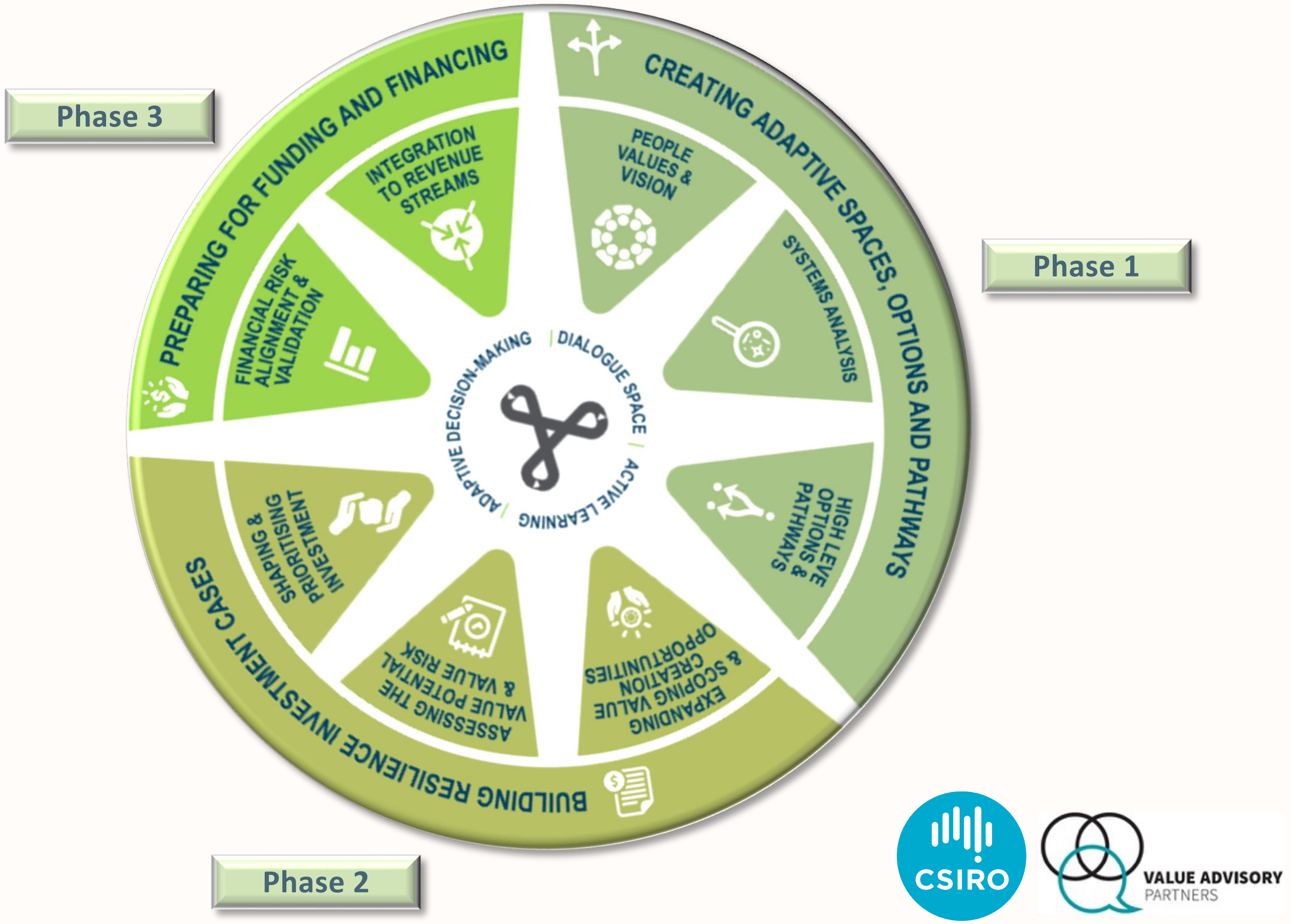
Effort will be needed to develop frameworks, approaches and resources to support project developers to identify value flows and commercial returns, and reach a level of project maturity which is suitable for interaction with the financial sector.

Both public and private sector stakeholders will need to work together to develop mechanisms that allow community level projects to be bundled together. This is needed to create a size of investment suitable for institutional investors. However, it will need to be balanced against the unique needs and structures of place-based resilience projects.

Place-based, community-led resilience projects will ensure that the specific needs of the local community are considered, including the unique geography, history, and culture of a place. Ensuring that community voice is central and community leadership of these resilience projects exists is critical to success.

CSIRO's Enabling Resilience Investment (ERI) approach may provide a framework to bring large-scale private investment to resilience and adaptation. The ERI approach has the potential to create measurable, fundable opportunities that generate value for communities and investors. Further demonstration and exploration of this approach is required in collaboration with the finance sector.

The Enabling Resilience Investment Framework



Insight 2: Three collaboration activities

THROUGH DELIVERING PILOT PROJECTS, WE IDENTIFIED THREE KEY ACTIVITIES FOR RESILIENCE INVESTMENT

The RIV experience over the last three years highlighted that household level and community level resilience projects present different challenges for private sector investment, and that investment in resilience is a complex and evolving domain.

The finance sector is looking for large-scale investments with commercial returns aligned to resilience outcomes. Resilience efforts also involve wide ranging changes in individual and community behaviour and the creation and adoption of new business models. The role and priorities of government at all levels is evolving. This is a space of genuinely complex, systemic challenge. Effective innovation needs ongoing, joined-up activities for system change.

To meet these challenges, we have identified a need for three key activities to be interconnected in an ongoing way: Convening stakeholders, developing frameworks and developing investable projects.

Convene diverse stakeholders

Convening of stakeholders across governments, finance, solution providers, and community intermediaries is needed to:

- negotiate, clarify and share an understanding of roles,
- learn from experience,
- identify gaps and opportunities, and
- avoid duplication.

Develop frameworks for scale

Continuing to develop and iterate frameworks and methodologies that:

- enable scale for projects and investment
- allow private and public investors to work closer together to strengthen household and community resilience.

Develop investable projects for impact

Developing and delivering on-the-ground investable projects that demonstrate solutions, enable learning, and create real impact for households and communities.

Insight 2: Three collaboration activities

The ways that these activities can support resilience investment will look different depending on the level of project undertaken. **Overcoming the barriers to institutional-scale investment in home retrofitting will look different when compared to the work needed to invest in community-level projects.**

The first key activity is convening to shape the system and create opportunities to connect, collaborate, learn and problem solve across sectors. Regular connections in different forums allowed stakeholders to build positive working relationships, understand differences in priorities and how each partner could contribute to shared goals. Resilience investment won't progress without these kinds of connection and decision forums.

During the RIV, we found ways of working collaboratively with diverse organisations and different sectors in some contexts, but still faced significant delays and barriers to overcoming silos.

Resources and commitment are required to ensure effective governance for collaboration. The RIV has demonstrated the value of ongoing collaboration. Without dedicated effort to ensure shared learning and ongoing communication there will not be meaningful progress on resilience finance.

The second interconnected activity is to implement pilot projects that demonstrate, or seek to advance elements that can facilitate, resilience investment. From the outset IAG and NAB anticipated finding, and investing in, resilience projects. The projects that RIV partners eventually pursued provided vital learning on:

- what is investable for a bank and insurer,
- what is not investable across the spectrum of resilience projects, and
- the capabilities and conditions needed for private investment.

Demonstration and learning from tangible projects fed directly into the ongoing convened discussions between RIV and government stakeholders to enable a better understanding of what's needed and what's missing from the space of resilience investment.

The third element that is critical to successful collaborative innovation to advance resilience investment is the development and testing of frameworks. Frameworks are important as they can:

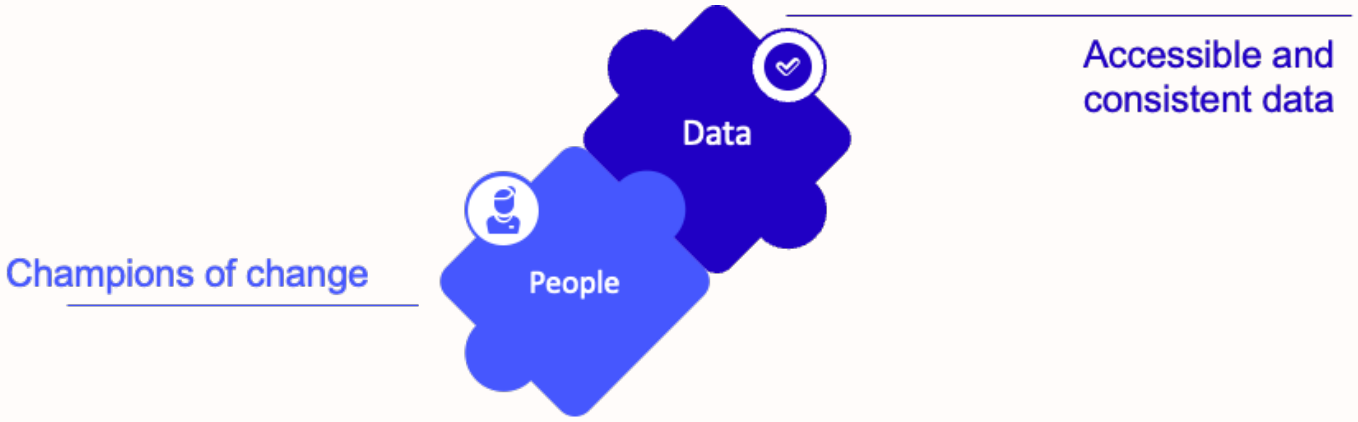
- Allow collaborators to negotiate and reach consensus about what is important, for example by using the RIV's project prioritisation framework,
- Create a consistent approach or tool that enables aggregation of smaller investments into larger scale packages, such as the Bushfire Star Rating Tool), or
- Enable identification of novel value flows that could offer opportunities to deliver financial returns.

Insight 3: Enablers of resilience investment

ENABLING THE ACTIVITIES FOR RESILIENCE INVESTMENT AT ANY LEVEL

Reflecting on the learnings gained from delivering the three pilot projects, we have identified two key enabling factors that can support activities for resilience investment.

People who are motivated and empowered to drive change, and good **data** for effective decision-making are required to enable innovation and action to finance resilience-building projects.



Champions of Change

The RIV was driven by champions of change - passionate and capable people working in supportive organisations to make innovation possible. Such champions are central to a successful ongoing collaboration for innovation in resilience investment.

These champions have some common characteristics and capabilities.

- They are translators. They have the empathy needed to communicate across different organisational cultures and areas of expertise.
- They are both persistent and flexible in collaboration.
- These champions took the time to build trust, clarity, and effective communication.
- They are passionate about resilience and have a personal interest and investment in change and improving resilience investment outcomes.
- These people are empowered to make decisions where needed.

Insight 3: Enablers of resilience investment

Data for resilience

We found that data is currently held by a diverse range of stakeholders and is difficult to access and collate. For example, many flood maps are held by local councils, and may only exist on paper and therefore are not easily shareable or accessible.

Different organisations can often use different approaches to collect and different data. This inconsistent data collection and management leads to inconsistency across datasets. A lack of consistent, reliable and accessible data was a barrier to progressing projects throughout the RIV pilot.

This needs to change.

We need consistent and accessible data about disaster risk. This will provide a foundation for households, communities, businesses, local governments, federal government and the finance sector when making decisions about where to live, where to build and what to invest in.

Government is well placed to collate, manage and share data in the public interest. This would require input from all levels of government, as well as private sector and non-government data owners. Work to improve data sharing arrangements is already underway following the Royal Commission into National Natural Disaster Arrangements. This is improving the way public sector organisations share information with each other, and it is expected that focus will extend to sharing data beyond the public sector.

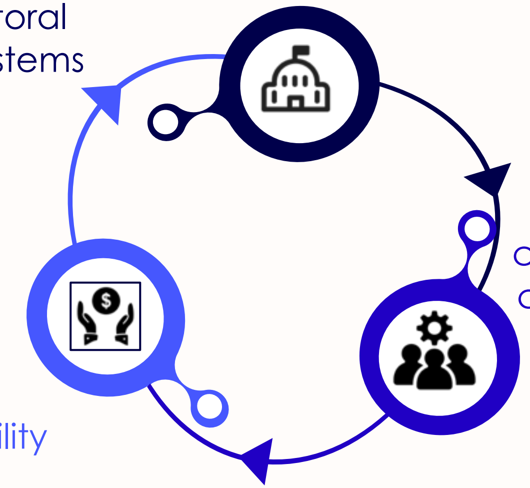
Increasing the flow of private capital to resilience projects will rely on high-quality, reliable and comparable data for informed and transparent decision-making.

Insight 4: Partners for transformational change

TO BUILD A RESILIENCE INVESTMENT MARKET, THREE STAKEHOLDER GROUPS NEED TO WORK TOGETHER

We have identified three key groups that need to participate in the three key activities to encourage resilience investment.

All stakeholders involved in this process will need to find ways to overcome siloed approaches to resilience investment both internally and externally. The governance structures of the RIV provided opportunities for collaboration between diverse stakeholders, and further iterations of these structures can further break down organisational and sectoral silos.



Cross-sector collaboration is new and different, and as we saw through the RIV, progress was achieved by motivated people empowered to drive change. Participants found ways to work collaboratively in some contexts, but still faced significant delays to overcoming silos. To achieve the massive investments that are needed to build the resilience across Australia, cross sector collaborations must continue to pilot, problem, share work, find gaps and opportunities, and avoid duplication of efforts.

A clear policy direction and catalysing funding from government are powerful tools to shape the resilience investment ecosystem to enable greater private sector involvement and address the shortfall in resilience investment. The finance sector, operating in a collaborative enabling environment created by government leadership and convening, can bring targeted investment to projects that align with the government's resilience goals. Technical and place-based intermediaries provide the expertise and local connections needed to develop evidence-based, place-based and community-led resilient interventions.

These three groups of stakeholders all play a critical role in cross-sectoral collaboration for systems change.

Insight 4: Partners for transformational change

TO BUILD A RESILIENCE INVESTMENT MARKET, THREE STAKEHOLDER GROUPS NEED TO WORK TOGETHER

Government

A resourced leadership, coordination and collaboration role from government is critical to progress resilience investment. IAG and NAB have taken this role through the RIV, but this now needs to be taken up by government to achieve broader engagement and collaboration in resilience investment.

Federal, state and local governments must explore the full range of its capabilities – policy, legislation, programs and strategic use of government funds - to enable effective partnerships with institutional investors.

Our experiences with the RIV highlighted the opportunity for governments to create an enabling environment with supporting policies to improve cross-sectoral collaboration. This could include establishing regional-scale policies and engagement opportunities that bring people together to work collaboratively to identify solutions that will encourage the scale of investment.

Government leadership can look like

- Direction and policy-setting

  Government can provide clear direction on how to approach the complex challenges of resilience investment. An enabling policy environment provides clarity and certainty for private sector investors. This includes strong climate information architecture to improve decision-making and risk pricing.

- Convening

  From exploratory conversations to regular meetings, Government leadership to convene finance sector stakeholders and intermediary organisations is critical for cross-sectoral collaboration.

- Catalytic funding

  Targeted government funding can encourage and support private sector investors seeking to direct capital towards projects that enhance resilience to disasters and climate change while delivering a return on investment.

Insight 4: Partners for transformational change

Whole of finance industry

The RIV model allowed for a small-scale collaboration that helped us to better articulate and understand the challenges of resilience investment. Having a small cross-sectoral collaboration model worked well during this 'discovery phase'. We were able to be more nimble, and spend time building trusted relationships and establishing ways of working that allowed for regular communication between stakeholders. Partner organisations had an opportunity to step outside the traditional roles of government and industry. For example, private sector partners stepped outside their traditional roles to take on convening, secretariat and coordination of the partnership, spanning research and development, corporate affairs and innovation.

The experiences of the RIV can be leveraged to structure and direct a whole of finance industry collaboration to increase our scale and impact. This can allow development of consistent and endorsed frameworks and investment models.

As already noted, Government leadership and coordination is key to enabling a whole of industry response to bring private capital to resilience projects.

A whole of industry approach is needed to achieve the scale and scope of impact we need to respond to current and future disaster risks, including by engaging industry bodies such as the Insurance Council of Australia and Australian Banking Association. This will enable governments to develop policies in partnership with the entire finance sector, and avoid the barrier experienced in the RIV when an opportunity only involved and benefited NAB and IAG as RIV partners.

What do we mean by a 'whole of industry' approach?

The finance sector is diverse and covers a broad range of activities. It includes banks, investment houses, lenders, finance companies, real estate brokers and insurance companies.

We learned from the RIV that two organisations acting unilaterally will not create the level of change needed.

Insight 4: Partners for transformational change

Intermediary organisations

The third group of stakeholders that are needed are intermediary organisations. We found that we needed to work with different types of intermediary organisations at different levels.

At the household level we had existing relationships with customers, therefore the main intermediaries needed were **technical experts and research partners**. CSIRO and James Cook University as technical intermediaries developed tools and frameworks such as the Star Rating Tool, and had the relationships and structures to test and refine these tools and frameworks.

At the community level, we found that it was not practical or desirable for a large bank and insurer to engage directly with communities. In a post-disaster context community members are overwhelmed and overburdened with managing their own recovery, whilst also contributing to the recovery of their community and neighbours. We needed **intermediaries to facilitate trauma-informed, community-led resilience**, such as Australian Business Volunteers and the role they played in Cobargo. **We saw that projects emerge when communities are given appropriate resources and support to lead their own resilience journey.**

Intermediary organisations can support communities to develop place-based, locally-driven project ideas, while also having high-level oversight of the resilience-building landscape to aggregate projects to an investable size. illustrated the value of investing in communities rather than projects.

We need to act now to increase investment in resilience

In recent years, Australia has experienced repeated and severe disasters driven by climate hazards alongside a global pandemic. We can see the cost of not investing in resilience in the toll that these disasters have taken on our mental and physical health, economy, infrastructure and homes, and natural environment. In a year of multiple disasters, the 2022 south-east Queensland floods alone are estimated to have cost the State $7.7 billion.[9]

Since the RIV was launched in 2019, there has been a shift in the way resilience is valued and prioritised both nationally and globally. Some of the changes include:

- Repeated extreme climate events and a global pandemic, which have forced people to start to have serious conversations about how to build resilience, and to face realities of difficult decisions, such as relocation.
- The creation of more integrated disaster management agencies in multiple layers of government such as the National Emergency management Agency and the NSW Reconstruction Authority, as well as an increasing number of other agencies whose interests and remits align to the goal of increasing resilience. Resilience is increasingly a high priority across government from federal to local levels.
- The emergence of the recommendations of the Task Force on Climate-related Financial Disclosures and their increasing incorporation into mandatory disclosure requirements, including in Australia, has increased business' focus on climate-related physical risk. This includes increasing Board attention. Additionally, financial regulators, including the Australian Prudential Regulatory Authority (APRA), have run climate vulnerability assessments to examine the potential for climate impact on individual bank loan portfolios and as well for systemic risk to the financial system[10]. This exercise, led by APRA in collaboration with the Australian Banking Association and five major banks, reinforced the benefit of taking mitigating action to improve resilience to physical climate change and minimise impacts. There is increasing pressure on banks, from a range of stakeholders, to focus on climate risk and understand how it might impact default rates in bank loan portfolios and how banks may help customers to reduce this risk.
- Emerging sustainable finance and climate finance taxonomies are further exposing industry to these issues, and creating opportunities for investment.

9. The social, financial and economic costs of the 2022 South East Queensland Rainfall and Flooding Event, Queensland Reconstruction Authority, Deloitte Access Economics June 2022
10. https://www.apra.gov.au/climate-risk-self-assessment-survey

We need to act now to increase investment in resilience

- Growing awareness and acceptance that the task of funding and financing resilience is beyond the capacity of government alone, and that combined public and private finance will be required to effectively managing changing future risk.
- Australia's renewed commitment to net zero emissions and a growing private sector commitment to net zero is raising the profile of climate change, sustainability and resilience conversations across the board.

The cumulative impact of these developments means there is currently an unprecedented opportunity where interests, intention, and resources can align to drive systemic change in resilience investment.

The collaboration enabled by the RIV has developed positive working relationships across diverse organisations and sectors, identified positive ways of working, and built practical experience in resilience investment. The current context of increasing interest and motivation to address resilience can be capitalised on and next steps can be informed by the learnings of the RIV.

A pathway to bring public and private capital to resilience investment

Collaboration to advance investment in both community and household level resilience needs to happen at the same time.

The RIV has given us greater clarity about how to move forward in the space of resilience investment. **This is a complex challenge and will take a collaborative effort from the finance industry, all levels of government and the broader community to shift the system.**

A coalition of willing collaborators is required to continue innovating and problem solving to enable greater private sector investment in resilience. And clear leadership from government at national, state and local levels is required.

Finding the mechanisms to increase the flow of private finance to work alongside public capital to invest in resilience requires experimentation and flexibility from all stakeholders in the resilience finance ecosystem.

The will and interest are now here. People are talking about this issue and can see why we need to find new ways to finance our future resilience.

The RIV provided insight into the activities that stakeholders should focus on and the challenges that need to be addressed to find a way forward.

IAG and NAB will continue to support communities to reduce their risk and build resilience, learning through pilots and seeking broader industry support.

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