



Statement 2: Valuing Resilience: seeking opportunity from across the landscape

Organisations seeking natural hazard and climate resilience can leverage a foundation of economic, social, governance and environmental focussed efforts.

The Australian Business Roundtable for Disaster Resilience & Safer Communities established the Resilience Valuation Initiative (RVI) coalition. RVI is seeking to advance an accepted process with enabling methodologies for understanding the value of a resilience-building asset, network, feature or activity.

Summary:

- ▶ There is no shortage of Australian and international effort to broaden decision-makers understanding of the value of resilience through standards, frameworks, tools and resources. Activities draw on decades of work across climate change adaptation, disaster risk reduction and other environmental, social and governance matters.
- ▶ Our review finds high-level categories of measures available across tools and methodologies, including economic, social, environmental and governance measures. Further work is needed to identify specific indicators, apply definitions of resilience and understand what context these are appropriate in.
- ▶ Applying resilience tools and methodologies can require highly specialised skills, dedicated resources and a drawing on multiple toolsets. The most comprehensive resources are ones that are flexible enough to be tailored to individual needs.

This RVI statement describes the landscape of existing and emerging efforts contributing, or with the potential to contribute, to better valuing resilience and assesses existing and emerging tools and methodologies.

It provides valuable knowledge for stakeholders seeking to develop methods for, or to support, valuing resilience and demonstrates the need to connect across the landscape to build capacity and understanding.

A busy and evolving landscape

Our work has identified many initiatives, frameworks and standards, tools and methodologies and local research and knowledge providers contributing, or with the potential to contribute, to better valuing resilience. While not exhaustive and with a distinct focus on Australia, these have been included in Figure 1, along with identified opportunities for use. It is a busy and evolving landscape of efforts that can be challenging to navigate. They focus often on specific outcomes of the quadruple bottom line which can detract from a systemic view of resilience.

Identified efforts have generally been built on policy priorities of climate change adaptation, disaster risk reduction resilience and sustainability. Much of the early activity involves infrastructure. This area has been most ripe for change and an impactful lever to date to improve disaster resilience for the public and private sectors.

Initiatives	Frameworks and Standards	Tools and Methodologies
<ul style="list-style-type: none"> • Australian Sustainable Finance Initiative • Business Council for Sustainable Development Redefining Value • Capitals Coalition • Climate Measurement Standards Initiative • Climate-KIC Adaptation Finance Project • Coalition for Climate Resilient Investment Systemic Resilience Forum • CSIRO Integrating Systemic Risk into Investment Decisions • Impact-Weighted Accounts Initiative • Future Homes- Insurance Council & Green Building Council of Australia partnership • Minderoo Foundation Fire & Flood Resilience Initiative • NSW Department of Planning, Industry and Environment Recognising Natural Capital Program • Resilience Shift Resilience Toolbox • Resilient Cities Network • Resilient Investment Vehicle Working Group • Taskforce on Climate-related Financial Disclosures • Taskforce on Nature-related Financial Disclosures 	<ul style="list-style-type: none"> • Australian Energy Regulator framework for valuing outages • Australian Institute for Disaster Resilience Systemic Disaster Risk Handbook • Building Queensland Business Case Development Framework • City Resilience Index / Framework • GRESB Resilience Module • Human & Social Capital Protocol • Infrastructure Australia Sustainability Principles • Infrastructure Australia Assessment Framework • Investor Group on Climate Change Investing in Resilience Guide • ISO 14008:2019 - Monetary valuation of environmental impacts • ISO 37120, 37123 – Sustainable cities and communities • ISO 31050 - Managing emerging risks to enhance resilience • Natural Capital Protocol • National Disaster Risk Reduction Framework • NSW Treasury Guidelines for Resilience Infrastructure Planning • Property Council of Australia Social Sustainability Framework • Queensland Reconstruction Authority Disaster Resilience Investment and Mitigation Framework • Smart Scan Standard for Sustainable and Resilience Infrastructure • Value Balancing Measuring Purpose Framework • Victoria Treasury Investment Lifecycle & Risk Guidelines • Victoria Value Capture Framework • World Bank Resilience Rating System • World Bank Triple Dividend of Resilience 	<ul style="list-style-type: none"> • Australian Disaster Resilience Index • Bushfire Building Council Resilience Star Rating Tool • Catastrophe loss models (numerous) • CSIRO Enabling Resilience Investment • FEMA Benefit Cost Toolkit 5.2.1 (US) • GBCA Green Star Rating Tool • IISD Sustainable Asset Valuation • Impact Valuation Assessment • NZ Transport Resilience Decision Support Tool • Resilience Dividend Valuation Model • UNDRR Quick Risk Estimation (QRE) • UNDRR Disaster Resilience Scorecard for Cities • University of WA Value Tool for Natural Hazards • Value-to-Society Method • WWF Water Risk Filter Tool • XDI Adapt XDI <p>Australian Research & Knowledge Providers</p> <ul style="list-style-type: none"> • ARC Centre for Excellence for Climate Extremes Australian Institute for Disaster Resilience • AdaptNSW and other state-based knowledge providers • Australian Bureau of Statistics • Australian Climate Service • Bureau of Meteorology • CSIRO • Natural Hazards Research Australia (including participating institutions) • Geoscience Australia • NESP Earths Systems and Climate Change Hub
Sample usage opportunities		
<ul style="list-style-type: none"> • Strategy & policy-setting • Business case development • Program design 	<ul style="list-style-type: none"> • Investment screening • Disclosures & reporting • Asset valuation 	<ul style="list-style-type: none"> • Investment screening • Disclosures & reporting • Asset valuation

Figure 1. Emerging resilience valuation landscape (Australia-focused)

Initiatives

Initiatives captured in Figure 1 are either created by RVI stakeholders or uncovered during the desktop review. The range is broad. Some initiatives support international movements like Sustainable Development Goals, the Paris Climate Agreement and policy guidance from international institutions like the World Bank. Others such as the Capitals Coalition and the Taskforce on Climate-related Financial Disclosures aim to transform decision-making by encouraging and developing new resources that recognises risks and opportunities through a more holistic view of resilience. Initiatives such as the NSW Department of Planning, Industry and Environment Recognising Natural Capital Program focusses on one contributing component to better valuing resilience.

The range of initiatives and participants demonstrates the level of effort and cross-sector collaboration needed to develop and drive mandatory or voluntary frameworks and standards and tools and methodologies.

Frameworks and standards

There is no disaster resilience standard-setting body to provide guidance on better valuing resilience. This makes it difficult to validate or verify that measures translate into real resilience benefits. However, there are international standards (e.g., ISO 3712) and accepted frameworks and tools focused on city resilience that may be adapted for organisational use.

However, as reflected in Figure 1, there are many different frameworks intended to provide structure and guidance. They are an important reference, however, generally operate at a high level and do not necessarily provide the specific indicators that public and private decision-makers desire in order to value resilience.

Tools and methodologies

We identified many tools and methodologies with the potential to support users to better value resilience – both established and emerging. These range in purpose from supporting corporate social impact reporting (e.g., Value-to-Society Method) to informing planner, policymaker and investor decisions on infrastructure (e.g., SAVi, UNHaRMED, AdaptXDI).

The different tools and methodologies were examined for a range of characteristics. This included how they align to characteristics of an ideal approach to value resilience identified in our [first statement](#), their potential to contribute to our emerging approach for better valuing resilience, cost and availability

From this review and consultations with developers, RVI participants agree:

- ▶ Tools are **specific and fragmented** – they may cover only one sector (roads), hazard (flood), or step in decision-making (option assessment). There is no end-to-end methodology or tool. Thus, a patchwork approach may be required to draw on multiple resources to understand resilience across a whole decision process.
- ▶ Tools are **dispersed and difficult to find**. Support is required to navigate the resources available to find the right ones to inform your business and decision
- ▶ Tools may also **use different assumptions and frameworks** and it is hard to know whether they are compatible with one another, or with your decision-making context. The variety of tools highlights the need for convergence or coordination.
- ▶ Applying these resources and interpreting their outputs **requires highly specialised expertise**. Experts in assessment in one area may not be able to support a different context. A tiered or scalable approach is required to cater to less expert users and lower risk or lower-cost investments.
- ▶ **Technology and capability constraints** affect the ability to integrate outputs from tools into existing processes. For example, they may not integrate neatly with a portfolio holdings system, or they may not deliver outputs that are easy for senior decision-makers to interpret.
- ▶ Most approaches are **resource-intensive** to apply, including requiring significant investments in **data collection and maintenance**. Data sometimes doesn't exist, or is very difficult to access, particularly longitudinal data. It is often dispersed among different owners.

- ▶ Resilience **measurement outputs are highly variable**. They speak to variation in the views about what resilience entails as well as underlying assumptions in the evaluation processes. While this may reflect different contexts, it limits the ability for outputs to be standardised and auditable and increases complexity in communicating outputs.
- ▶ Many tools **support early approach steps** for a project by supporting strategic assessments. This focuses on securing baseline information about climate and other risks and mapping stakeholders. Risk assessments are an essential component but are changing as organisations consider ways to better identify and respond to interdependencies. Few allow for ongoing monitoring or outcomes and the associated benefits.

Australian research and knowledge providers

As the 2020 Royal Commission into National Natural Disaster Arrangements recently reiterated, “Australia has strong research and development capabilities in climate and natural disasters.”¹ Publicly funded research agencies work together, in collaboration with universities through hubs and centres and with private sector-led initiatives.² Similarly, the Australian Institute for Disaster Resilience (AIDR) develops, maintains and shares knowledge and learning to support a disaster resilient Australia. These entities and the experts that drive them play a critical role in developing, testing and advancing tools and methodologies for better valuing resilience.

Recommendations for a way forward

This review provides a partial answer on the appropriateness of these tools and methodologies for RVI participants. Piloting resources will lead to a more detailed assessment.

Nonetheless, we know that practices need to transform to consider resilience in decision-making. RVI participants recommend specific actions to generate understanding and better application. Initial activity could include:

- ▶ All sectors collaborate to catalogue what data is available and who holds it. Build from this to form partnerships to access existing and emerging data. This may reduce costs, improve accessibility and standardisation.
- ▶ All sectors come together on common definitions, language and measures for resilience to support tools and methodologies. There is significant work to lean on from existing frameworks, standards and initiatives.
- ▶ Focus first on simple metrics, developing more complex measures as acceptance and technical capability grows. This as the successful approach of many established sustainability rating tools.

RVI participants want to drive resilience within their own organisation’s decisions. However, to enable more resilient systems, there is a need for an accepted process with enabling methodologies for understanding the value of a resilience-building asset, network, feature or activity.

¹ Royal Commission into National Natural Disasters report. 28 October 2020. p. 490-494.

² Australian Business Roundtable (2014). *Building an Open Platform for Natural Disaster Resilience Decisions*. Retrieved from <http://australianbusinessroundtable.com.au/assets/Building%20an%20Open%20Platform%20for%20Natural%20Disaster%20Resilience%20Decisions%20CLEAN.pdf>

About the Resilience Valuation Initiative

Participating organisations

AECOM	Department of Prime Minister & Cabinet	Munich Re
Arup	Energy Networks Australia	National Recovery & Resilience Agency
Australian Business Roundtable for Disaster Resilience & Safer Communities	EY	Natural Hazards Research Australia
Australian Institute for Disaster Resilience	Frasers Property Group	Queensland Reconstruction Authority
Australian Property Institute	Green Building Council of Australia	Resilient Projects
Australian Red Cross	IAG	Woolworths
Australian Super	Infrastructure Australia	WWF-Australia
Climate-KIC	Infrastructure NSW	
CSIRO	Minderoo Foundation	

The Resilience Valuation Initiative welcomes more organisations to participate in our work program.

FIND OUT MORE:

<http://australianbusinessroundtable.com.au/our-initiatives>

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