

# Executive Summary

## The financial and emotional burden of natural disasters in Australia has been great and the costs of extreme weather events continue to rise

Protecting lives and property is an enduring issue for all Australians and the opportunity remains to develop a national, long-term preventative approach to managing natural disasters and protecting our communities.

Over the last four years, natural disasters around Australia including the Black Saturday bushfires in Victoria, Cyclone Yasi in Northern Queensland, and widespread flooding across Queensland, Victoria, Tasmania and NSW have claimed more than 200 lives and directly affected hundreds of thousands of people.

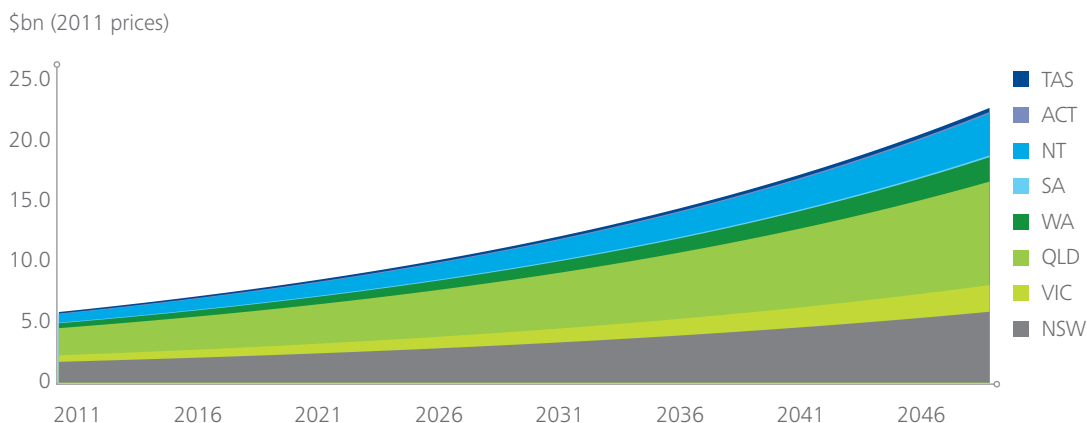
In 2012 alone, the total economic cost of natural disasters in Australia is estimated to have exceeded \$6 billion. Further, these costs are expected to double by 2030 and to rise to an average of \$23 billion per year by 2050, even without any consideration of the potential impact of climate change (Chart i).

Each year an estimated \$560 million is spent on post-disaster relief and recovery by the Australian Government compared with an estimated consistent annual expenditure of \$50 million<sup>1</sup> on pre-disaster resilience: a ratio of more than \$10 post-disaster for every \$1 spent pre-disaster<sup>1</sup>.

These material social and economic costs have, understandably, generated considerable discussion on how we might reduce our vulnerabilities to natural disaster threats. As recognised in the National Strategy for Disaster Resilience (NSDR), the task of building more resilient communities is complex and requires greater collaboration between government, business and community.

In response, the *Australian Business Roundtable for Disaster Resilience and Safer Communities* was formed with the aim of working constructively with governments by contributing expertise, research and resources to address the challenge.

Chart i: Forecast of total economic cost of natural disasters: 2011 – 2050



Source: Deloitte Access Economics (2013)

<sup>1</sup> The Australian Government Budget 2013-2014, handed down on 14 May 2013, allocated \$50 million per year over two years to reduce flood risk.

**“His Excellency, however, still cherishes the hope that the calamities which have befallen the settlers will produce at least the good effect of stimulating them to the highly expedient and indispensable measure of proceeding to establish their future residences in the townships allotted for the preservation of themselves, their families and their property”**

Governor General Lachlan Macquarie, Government and General Orders, Government House, Sydney, Wednesday 5th March. 1817. Civil Department

The research outlined in this paper demonstrates that the opportunity exists for Australia to design a more sustainable and comprehensive national approach to making communities safer and more resilient.

It shows that the budgetary impact of responding to and recovering from natural disasters could potentially be significantly reduced through carefully considered and directed investment in pre-disaster resilience.

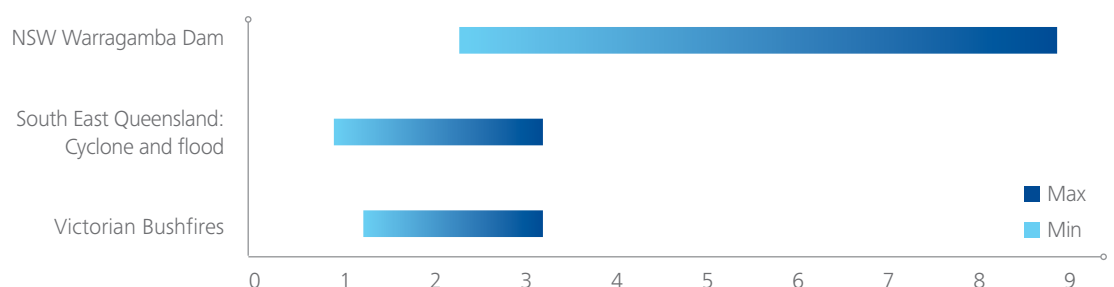
For example, an annual program of Australian Government expenditure on pre-disaster resilience of \$250 million at the national level has the potential to generate budget savings of \$12.2 billion for all levels of government (including \$9.8 billion for the Australian Government) and would reduce natural disaster costs by more than 50% by 2050.

While different resilience measures show a wide range of benefit-cost ratios (BCRs) (see Chart ii below), investments that target high-risk locations using appropriate combinations of infrastructure, policy and procedure carry the highest BCRs.

As demonstrated in the case studies contained within this paper, cost effective action can be taken<sup>2</sup>:

- A program focussing on building more resilient new houses in high cyclone risk areas of South-East Queensland would reduce the risk of cyclone-related damage for these houses by around two thirds, and generate a BCR of up to three. Existing houses can be particularly challenging to retrofit but the BCR approaches one in high risk areas
- Raising the Warragamba Dam wall by 23 metres would reduce annualised average flood costs by around three quarters, and generate a BCR of between 2.2 and 8.5. This would result in a reduction in the present value of flood costs between 2013 and 2050 from \$4.1 billion to \$1.1 billion, a saving of some \$3.0 billion
- Building more resilient housing in high risk bushfire areas generates a BCR of around 1.4; improved vegetation management a BCR of around 1.3, and undergrounding electricity wires results in a BCR of up to 3.1.

**Chart ii: Case Studies – Ranges of Benefit-Cost Ratios of specific resilience measures**



Source: Deloitte Access Economics, (2013)

<sup>2</sup> In each case, the estimated BCRs have been based on data and information drawn from existing studies as well as data provided by Roundtable members. As with all government investment decisions, detailed analysis utilising the latest engineering and technical data should be conducted along with comprehensive impact assessment to assess the full extent of possible environmental effects.

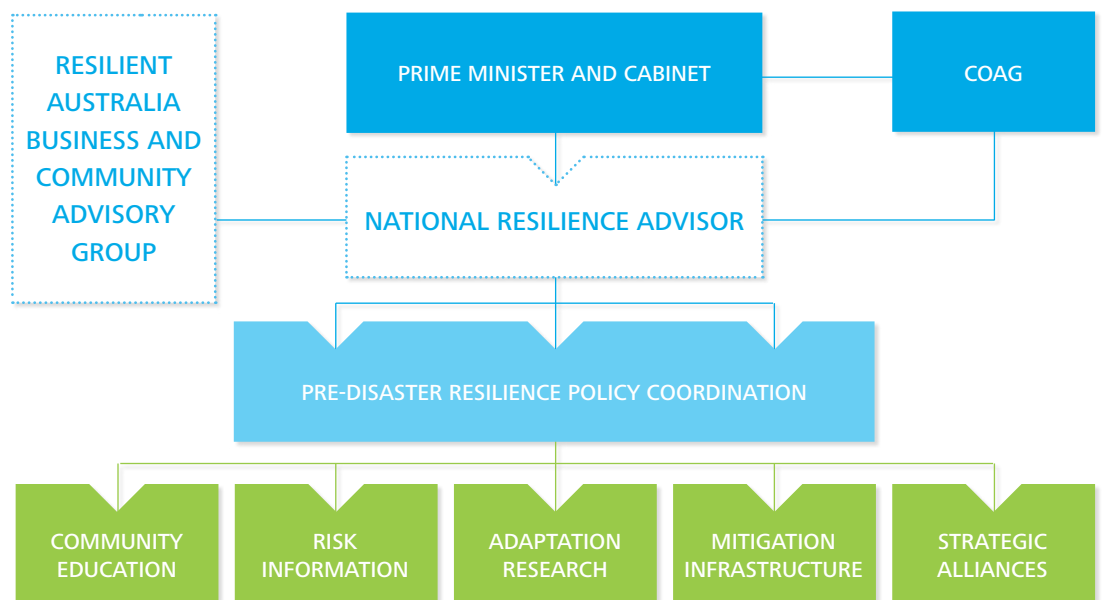
These case studies represent only a small selection of the natural disaster risks present in Australia but they highlight the need for a new approach to tackle the most complex challenges:

- Prioritisation of mitigation and investment options based on appropriate economic value and risk assessment. This includes finding mechanisms that allow key investment decisions to be taken at a localised level, often property by property. Those decisions can be supported by government through the provision of information and incentives and by the private sector through price signals that reflect the risks involved
- Higher quality planning standards required of local government, to ensure no further development is allowed in areas of unacceptable risk and that building standards reflect the need to protect property, as well as lives

- An increased effort to co-ordinate and update existing data, natural resource mapping and assessments that may exist across government departments needs to be prioritised and integrated into land use planning. This will enable the government to provide a more informed and consolidated approach to planning decisions and land management
- Commitment to recurrent funding of education and awareness programs aimed at helping people to adapt to living with the threat of disaster to promote long term behavioural change (e.g. along similar lines to road accident prevention campaigns).

The research presented highlights the opportunity to develop a national, long-term approach to managing natural disasters, through a co-ordinated and collaborative response. Importantly, the policy response to building our nation's resilience to natural disasters must **focus on prevention**.

Figure i: Building a more resilient Australia



PRINCIPLE: CENTRAL GOVERNMENT FOCUS WITH STRONG SUPPORT FROM BUSINESS TO ADDRESS THE COORDINATION CHALLENGE

## Recommendations

This paper offers three key recommendations:

### 1 **Improve co-ordination of pre-disaster resilience by appointing a National Resilience Advisor and establishing a Business and Community Advisory Group.**

Developing resilient communities should be elevated to the centre of government decision-making to deliver effective and efficient coordination of activities across all levels of government, business, communities and individuals. This should be directly supported by a Business and Community Advisory Group to help facilitate a more co-ordinated response and to ensure that business and the not-for-profit sector are represented at the highest levels of policy development and decision-making.

### 2 **Commit to long term annual consolidated funding for pre-disaster resilience.**

All levels of government – led by the National Resilience Advisor – should commit to consolidating current outlays on mitigation and to funding a long-term program which significantly boosts investment in mitigation infrastructure and activity.

Critical to this success will be support for the consolidation of existing information and commissioning of additional data where needed. This will assist in the development and implementation of effective local responses by governments, businesses and the community.

### 3 **Identify and prioritise pre-disaster investment activities that deliver a positive net impact on future budget outlays.**

A program of mitigation activity should be developed based on cost-benefit analysis that demonstrates a clear positive outcome from investing in pre-disaster resilience measures.

Prioritisation of these activities should be informed by analysis of research, information and data sets allowing key investment decisions to be taken at all levels, including government incentives and price signals from the private sector.

## Conclusion

*The Australian Business Roundtable for Disaster Resilience and Safer Communities* formed to contribute to the national discussion on how Australia might reduce its vulnerability to natural disasters. This paper fills an important information gap, both here in Australia, and internationally, on the potential outcome of mitigation activities at an aggregate, or national, level.

The paper outlines a new approach for effective and prioritised pre-disaster investments across the country and highlights the importance of integrated information and activity across government, business and community.

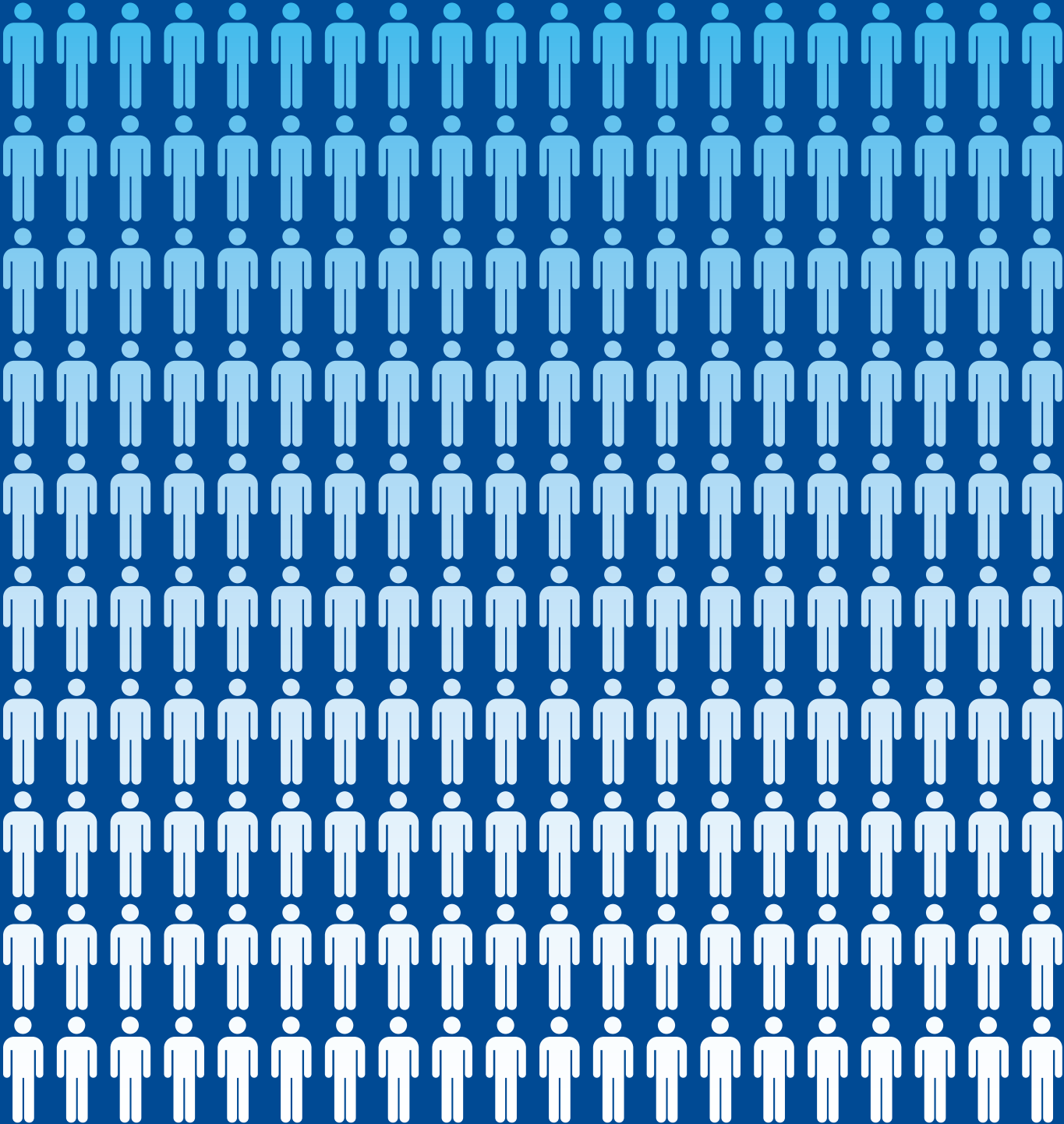
By pursuing the paper's key recommendations, economic costs can be materially reduced, as well as relieving long term pressures on government budgets.

More importantly, a safer Australia can be created through building resilience against the trauma and loss of life that all too frequently confronts many of our communities when a natural disaster strikes.



Brisbane River Flood Map, Queensland 2012

2009–2011



200 LIVES LOST  
AND MANY THOUSANDS OF PEOPLE AFFECTED