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National Disaster Funding Arrangements

Productivity Commission

LB2 Collins Street East

Melbourne Vic 8003

Disaster.funding@pc.gov.au

Productivity Commission Inquiry into Natural Disaster Funding Arrangements

The [Australian Business Roundtable for Disaster Resilience and Safer Communities](#) (Roundtable) welcomes the opportunity to make a submission to the Productivity Commission's Inquiry into National Disaster Funding Arrangements.

The Roundtable is particularly encouraged that the *Issues Paper* states the Productivity Commission will consider whether the current natural disaster funding arrangements are effective, sustainable and coherent, and contribute to effective risk management and therefore increasing the wellbeing of the Australian community. The Roundtable believes the Inquiry provides Australia with an opportunity to examine the full scope of national expenditure on natural disasters and develop a more sustainable balance between mitigation and recovery funding arrangements.

The [Australian Business Roundtable for Disaster Resilience and Safer Communities](#) was formed by the Chief Executive Officers of: Australian Red Cross, Insurance Australia Group, Investa Property Group, Munich Re, Optus and Westpac Group. The CEO's created the Roundtable as all believe having resilient communities that can adapt to extreme weather events is of national importance.

National Stewardship Needed

Recent natural disasters across Australia have understandably generated a national discussion of how we may reduce our vulnerability to natural hazard threats and also highlighted the need to develop a more sustainable and comprehensive national approach to the complex issue of managing weather related risks.

The Roundtable believes the Australian Government has a key role as a leader, policy-maker, legislator and funder to address the efficacy of current national natural disaster funding arrangements. It is important to acknowledge that natural disasters transcend the scope of State and territory jurisdictional responsibilities. Natural perils often spill across State borders, requiring co-ordination and co-operation between States with different economic abilities and constraints. As such, it is efficient to provide a policy response centrally to ensure consistency and avoid duplicated effort across jurisdictions.

The Roundtable agrees with the Council of Australian Governments (COAG) National Adaptation Priorities (2013) which stated:

"The Australian Government has stewardship of the national economy and is responsible for promoting Australia's national interests more broadly. As climate change will impact on virtually every sector of

the economy and society, the Commonwealth will need to take a leadership role in positioning Australia to adapt to climate change impacts that may affect national prosperity or security. By exercising its role the Commonwealth will help to improve adaptive capacity and build climate resilience.”

Furthermore, the COAG National Adaptation Priorities (2013) stated:

“The Commonwealth has a responsibility to lead national reform to ensure Australia is well placed to deal with these risks. Further, while many adaptation decisions will be based on local conditions, it will be important, where necessary, to take a consistent approach on some issues.”

The Economic Costs of Natural Disasters in Australia

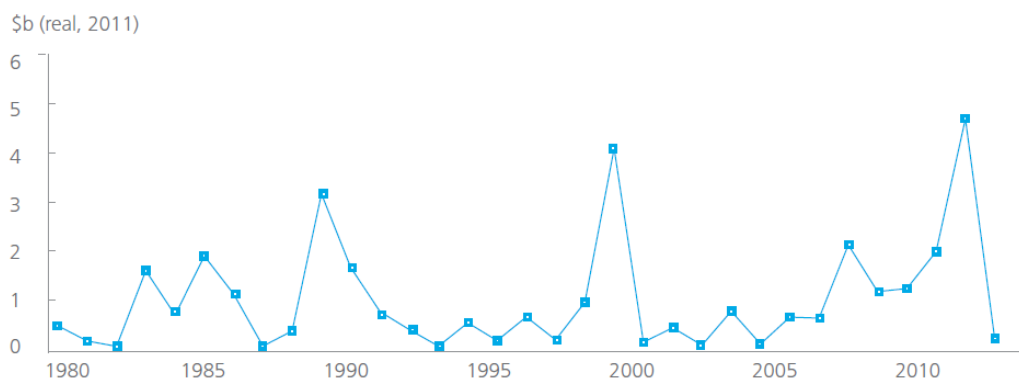
The Roundtable commissioned independent research by Deloitte Access Economics - *Building our Nation’s Resilience to Natural Disasters* - to forecast the cost of natural disasters to Australia by 2050 if investment in mitigation efforts remains unchanged, along with the cost benefit of greater investment in mitigation measures.

Building our Nation’s Resilience to Natural Disasters demonstrates that the opportunity exists for Australia to design a **more sustainable and comprehensive national approach** to making communities safer and more resilient.

Across Australia, communities are exposed to a wide range of natural disasters, including storms, cyclones, floods, bushfires and earthquakes. These disasters have devastating impacts, including damage to homes, critical infrastructure and the natural environment, loss of human life, injury and longer-term social, community and psychological costs.

Over the period from 1967 to 2012, Australia experienced on average, at least four major natural disasters per year where the insured loss exceeded \$10 million (Insurance Council of Australia, 2013). In addition, there have been numerous smaller-scale disasters with equally devastating local consequences. Figure 1 illustrates the extent of insured losses from natural disasters in Australia over the period from 1980 to 2012.

Figure 1 - Insured costs of natural disasters, 1980-2012



Source: Insurance Council of Australia (2013)

Source: Deloitte Access Economics - *Building our Nation’s Resilience to Natural Disasters* (June 2013)

It is important to recognise that these losses only represented a proportion of the total economic costs of natural disasters. In addition to insured losses, total economic costs incorporate the cost of damage to uninsured property and infrastructure, costs of emergency response and intangible costs such as death, injury, relocation

and stress. Historically, it has been estimated that these total costs are between two and five times greater than insured costs alone for most types of disaster (BTE, 2001).

At present, the total economic costs of natural disasters in Australia are estimated to average around \$6.3 billion per year. In real terms, this total is forecast to grow by 3.5% annually. This is primarily due to the likely impact of further population growth, concentrated infrastructure density, and the effect of internal migration to particularly vulnerable regions. With this growth rate, the annual total economic cost of natural disasters in Australia is expected to double by 2030 and reach \$23 billion in real terms by 2050 (Figure 2).

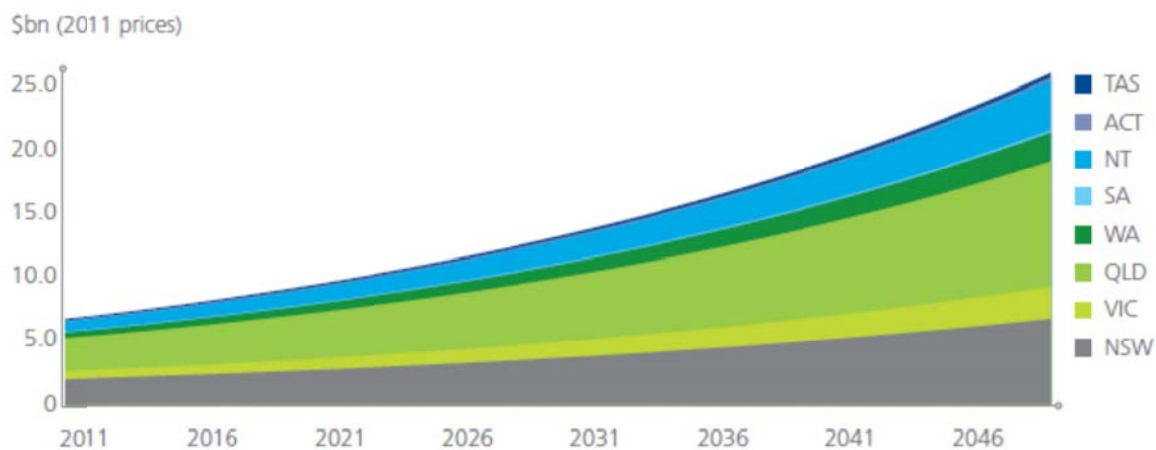
Each year an estimated \$560 million is spent on post disaster relief and recovery by the Australian Government compared with an estimated consistent annual expenditure of \$50 million on pre-disaster resilience: a ratio of more than \$10 post-disaster for every \$1 spent pre-disaster.

Historical data indicates that the Australian and state governments collectively face around 11% of the total economic costs of natural disasters. It is estimated that 80% of this government expenditure is outlaid by the Australian Government.

Considering the increase in natural disaster costs forecast over the period to 2050, it is anticipated that governments will eventually face an annual cost of around \$2.3 billion in real terms (Figure 3).

The expected future costs of natural disasters highlight the need for governments to invest further in resilience measures. As the government does not currently account for future disaster costs in the forward estimates, it is difficult to recognise the true cost advantages of building resilience.

Figure 2 - Forecast total economic cost of natural disasters 2011-2050

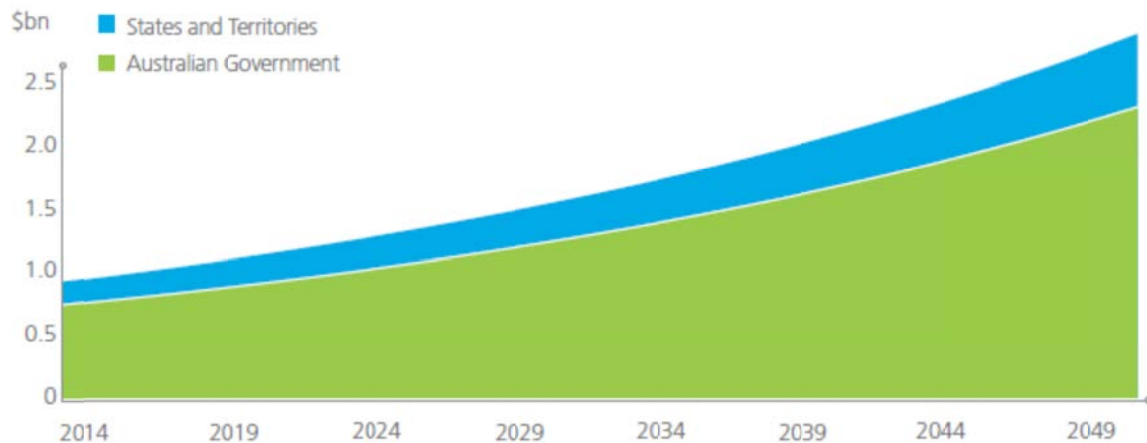


Source: Deloitte Access Economics (2013)

Source: Deloitte Access Economics - Building our Nation's Resilience to Natural Disasters (June 2013)



Figure 3 - Forecast annual cost to government of natural disasters 2011-2050



Source: Deloitte Access Economics (2013)

Source: Deloitte Access Economics - *Building our Nation's Resilience to Natural Disasters* (June 2013)

Benefits of Pre-Disaster Funding - Australia

Building our Nation's Resilience to Natural Disasters 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.

In order to illustrate how investments in resilience could generate net benefits for Australian communities, indicative cost-benefit analyses for different types of resilience activities were undertaken through three case studies.

Overall, it was found that:

- A program focusing 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 benefit-cost ratio (BCR) of up to 3.0. Existing houses are particularly challenging to retrofit but the BCR of retrofits approaches 1.0 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 results in a BCR of around 1.3, and undergrounding electricity wires results in a BCR of around 3.1.
- 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 and by the community through local community engagement and planning.

- 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 household disaster risk reduction 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).

Building our Nation's Resilience to Natural Disasters 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**.

A simple cost-benefit analysis demonstrates how government funds would be saved in the long run by bringing forward expenditure on natural disaster recovery and placing a greater level of investment in pre-disaster resilience measures. Assume, for example, that carefully targeted programs of resilience expenditure in the order of \$250 million per annum achieved an overall Benefit-Cost Ratio (BCR) of around 1.25. This implies that this program of expenditure would incur costs in the order of \$5.3 billion over the period to 2050 (present value terms) but would generate budget savings in the order of \$12.2 billion for all levels of government (or \$9.8 billion when looking at the Australian Government budget only). If successfully implemented, this intervention could see Australian and state government expenditure on natural disaster response, fall by more than 50% by 2050.

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

Building our Nation's Resilience to Natural Disasters offers three key recommendations to **improve the effectiveness and sustainability of Australia's disaster funding arrangements**:

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 (within the Department of Prime Minister & Cabinet) 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, and community education that is focussed upon behaviour change. 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, including a program of community education activities. 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.

Based on the analysis outlined in *Building our Nations' Resilience to Natural Disasters* there is a good case for greater expenditure on pre-disaster investment relative to post-disaster relief and recovery. Further, **it is clear that greater emphases on activities directed at a nation-wide, co-ordinated approach to disaster resilience are likely to be more successful.**

Benefits of Pre-Disaster Funding - International

Building our Nations' Resilience to Natural Disasters also shows international experience demonstrates the importance of establishing an inclusive national framework for disaster management. Local on the ground activities should be supported through data sharing and information gathering facilitated at the national level by an organisation. This organisation should also coordinate activities across and between stakeholders to ensure alignment of a best practice approach across all jurisdictions and stakeholders.

Cost benefit analysis undertaken in similar developed countries demonstrates a clear positive outcome from investment in pre-disaster resilience measures. In particular, analysis of flood mitigation measures indicates significant benefits of investing in flood mitigation infrastructure. In the UK for each \$1 invested in flood mitigation measures the benefits ranged from between \$4 and \$11, while in the US the benefit cost ratio was around 5:1.

Betterment Provisions

In addition to increasing investment in pre-disaster resilience the framework for distributing these funds should be reformed to encourage strategic investment in priority mitigation infrastructure projects. Unfortunately the existing funding arrangements do not offer sufficient incentives for State Governments, individuals and communities to rebuild in a more resilient manner. The National Disaster Relief and Recovery Arrangements (NDRRA) betterment provisions, which seek to encourage disaster resilience in rebuilding or replacing disaster damaged public infrastructure, are poorly understood and rarely used. There are no betterment provisions in the personal hardship and distress payments to individuals. These are focussed upon meeting basic needs or 'making good' existing, damaged properties.

The Roundtable notes the Productivity Commission (2012) has previously identified that there are a number of factors that may be limiting the use of the betterment provision:

"Examples identified by the Queensland Government (sub. DR161) include inadequate guidelines and processes for project evaluation, ambiguous cost-sharing arrangements across levels of government, and difficulties in securing funding. The Review of the 2010–11 Flood Warnings and Response (Victoria) also noted significant confusion by local governments about the processes for the betterment of damaged assets, including the need to provide detailed information and receive pre-approval from the Australian Government before construction can commence (Victorian Government 2011b). The Australian Local Government Association (ALGA 2011) noted that it is unclear whether all local governments are even aware of the betterment provision." (Barriers to Effective Climate Change Adaptation, Productivity Commission Inquiry Report, September 2012).

The Productivity Commission also note these factors may lead to state, territory and local governments using the NDRRA to replace damaged assets to their previous standard without considering betterment options, regardless of the benefits to the community.

The Roundtable notes betterment proposals must demonstrate cost-benefit to all three levels of government and the Attorney-General’s Department views that (2014):

“This can be problematic as it requires an agreed estimate of potential future risk and possible expenditure. Betterment has historically had a limited uptake (one project has been agreed at a maximum Commonwealth cost of \$0.78 million), although in early 2013, the Australian and Queensland governments agreed to share equally the cost of an \$80 million betterment fund for local government-owned assets damaged by flood, storm and cyclone events of early 2013.” (Attorney-General’s Department Submission to Productivity Commission Inquiry into Public Infrastructure, February 2014)

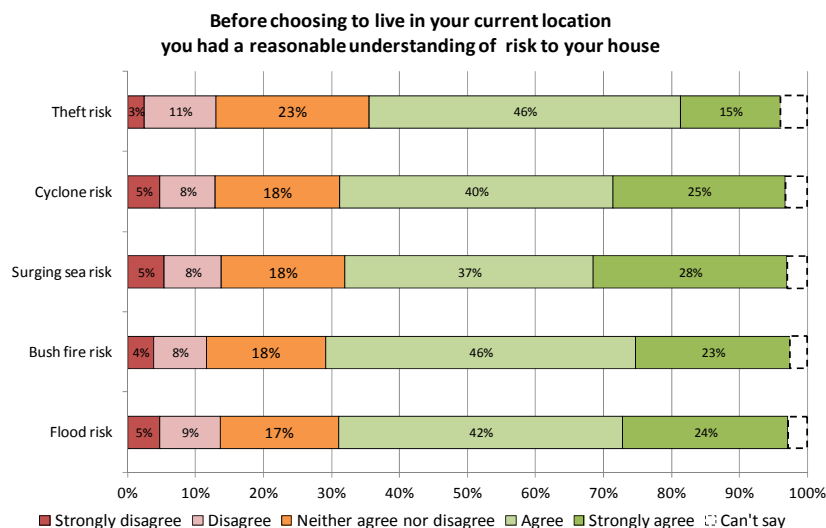
Consequently, it is arguable the NDRRA do not offer sufficient incentives for communities to rebuild in a more disaster resilient way or consider alternatives to rebuilding.

Level of Understanding of Risks

IAG commissioned research (Sapere Research Group and Roy Morgan Research - *Australian Household Insurance: Understanding and Affordability - February 2012*) which looked at the level of understanding of insurance and affordability by Australian households. It notes a common concern is that people have invested in a home unaware of the risks to their home and the associated financial consequences. Respondents were asked about the level of understanding of the risks prior to choosing to live in their current location.

For all risks, between 12% and 14% of households disagreed or strongly disagreed that they had an understanding of the risks before choosing to live in their current location. In particular, over 20% of respondents who assessed themselves as relatively highly exposed to flood considered that they did not understand the risk prior to choosing to live in their location. See details below.

Figure 4 Level of understanding of risks prior to moving to current location



Source: IAG commissioned research - Sapere Research Group – *Australian Household Insurance: Understanding and Affordability (2012)*.



Ultimately, the goal is to ensure that communities, planners, emergency services, individuals, property owners and insurers understand the risks that they face, and that effective risk mitigation measures can be undertaken.

As the Attorney-General's Department outlined in its submission to the Senate Standing Committee on Environment and Communications Inquiry into Emergency Communications (2011):

“Providing communities with information empowers them to make more informed judgements. Key to this is the availability and accessibility of transparent, accurate and trusted information sources in various forms and providing the tools to help communities understand and act on the material provided. While providing information and warnings is important, educating people how to respond is equally important.” (p. 7).

Development of information sets and best practice adaptation research

As outlined above investments in resilience can reduce costs. However, without access to critical data inputs and research findings, communities, business and government cannot make informed decisions on how to target these investments to achieve the greatest impact.

Deloitte Access Economics was commissioned by the Roundtable to review international best practice research models, stocktake the current data holdings and research activities being undertaken in relation to natural disasters in Australia, and highlight the benefits that could be achieved from an enhanced approach (*'Natural Disaster Data and Research in Australia'*). The Report - *Natural Disaster Data and Research in Australia* - will be released in July 2014. Preliminary research findings are outlined below.

As outlined in *'Building our nation's resilience to natural disasters'*, the responsibility for the provision of risk information in an accessible and usable way lies primarily with government. Natural disaster information has some public good characteristics. The use of information by one party does not impact its availability for use by others, but it is excludable. Overall, it has positive externalities, and is therefore classified as a merit good. Accordingly, the net benefits associated with producing information on natural hazards and resilience measures will increase as wider distribution is promoted.

This is consistent with the Australian Government's Declaration of Open Government, which recognises the importance of making government information more accessible and usable, through the innovative use of technology (Australian Government, 2010). This stance is supported by similar policies at the state and territory level.

However, business also has a responsibility to support this role of government, through the development of information sets and involvement in best practice adaptation research. For example, one of the ten recommendations of the Australian Sustainable Built Environment Council's Framework to Improve Resilience is for government to engage with industry to co-sponsor research into the impacts of climate change and appropriate adaptation strategies (ASBEC 2013).

Currently, opportunities for business participation in data sharing and research activities are hindered by the simultaneous need to protect their commercial viability and intellectual property issues. This highlights that the approach to co-ordination of natural disaster information needs to go beyond government, and establish practical ways to facilitate engagement with the private sector.

Consistent with the recommendations of *'Building our nation's resilience to natural disasters'*, improving research and data should form part of the roles and responsibilities of a National Resilience Advisor within the Department of Prime Minister and Cabinet, concentrating on the achievement of three key objectives of transparency, collaboration and effective prioritisation, as discussed below:



1. **Data and research findings:** Data and research findings on natural disaster risks and the effectiveness of resilience options should be, in principle, publically available, or at least available subject to reasonable conditions where there are confidentiality requirements. Building greater transparency of data and research outcomes across all stakeholders will strengthen the research platform, particularly in relation to the engagement of the private sector. This could be addressed by the National Resilience Advisor with the support of a Business and Community Advisory Group. This should leverage existing data repository infrastructure and licencing, and should link in with the Australian Government's open data policy.
2. **Transparency of data:** Greater transparency around the spectrum of past and present research activities related to natural disaster resilience should foster valuable linkages between groups with common interests, and motivate new streams of research responsive to the needs of Australian communities. In particular, participation by the private sector is another challenge which could be addressed by the National Resilience Advisor, with the support of a Business and Community Advisory Group.
3. **Prioritising funding based on a resilience research agenda:** Funding for data and research should be directed towards the greatest opportunities to improve the resilience of Australian communities based on appropriate and transparent cost benefit analysis. While there are many examples of successful application of research for resilience in Australia, until greater transparency of data and research are addressed, there will remain further opportunities to unlock the full potential of a resilient Australia.

Overall, this enhanced approach would deliver benefits for Australian society. While there are costs of data creation and sharing, there could also be savings for data producing agencies and the users of information.

However, it is likely that the area of greatest potential impact will be wider economic and social benefits of an improvement in the efficiency of resilience investments, leading to a reduction in the costs of natural disasters borne by Australian communities. Although there are many interrelated factors that would influence the effectiveness of a co-ordinated approach, it is estimated that potential savings for government could be achieved, within the range of \$500 million to \$2.4 billion, over the period to 2050 in present value terms.

Centralising both decision-making and funding will enable Government to prioritise coordination of activities across all relevant departments, levels of government, business, communities and individuals and deliver faster progress on building a resilient Australia.

Again, the Papers *Building our Nation's Resilience to Natural Disasters* and *Natural Disaster Data and Research in Australia* highlight the opportunity to develop a national, long-term approach to managing natural disasters, through a co-ordinated and collaborative approach with potential budget savings in the order of \$12.2 billion related to a greater level of investment in pre-disaster resilience measurers and around \$2.4 billion related to improving research and data.

Conclusion

The Roundtable's commissioned research papers outline a new approach for effective and prioritised pre-disaster investments across the country and highlight the importance of integrated information and activity across government, business and community.

By pursuing the key recommendations of the Roundtable papers, 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.

Should you require further information please do not hesitate to contact Mr Michael Wilkins, Managing Director and CEO, Insurance Australia Group

The Paper '*Building our Nation's Resilience to Natural Disasters*' is attached for your information. The Paper '*Natural Disaster Data and Research in Australia*' will be published in July 2014.

Yours sincerely

Robert Tickner
CEO
Australian Red Cross



Mike Wilkins
Managing Director & CEO
Insurance Australia Group



Campbell Hanan
CEO
Investa Property Group



Heinrich Eder
Managing Director
Munich Re



David Epstein
Vice President of Corporate &
Regulatory Affairs
Optus



Gail Kelly
Managing Director & CEO
Westpac Group

