



28 October 2014

Australian Government  
Natural Disaster Funding Arrangements  
Productivity Commission  
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Dear Commissioners

The Actuaries Institute thanks the Productivity Commission for the opportunity to provide comment on the draft report into Natural Disaster Funding Arrangements.

The Actuaries Institute welcomes the call in the draft report for effective planning and a greater focus by governments on mitigation measures. Money spent now on the right mitigation projects will save many more dollars down the track in rebuilding key public infrastructure and private assets. While the draft report acknowledges that there is now more quality information available about hazards and risk exposure, the Actuaries Institute believes there remains a pressing need to ensure that this information reaches people who face the greatest potential impact and in a form that is readily understandable. Ultimately those at risk should have a better understanding of natural disaster risk and a greater incentive to manage the risk effectively.

In this submission, the Actuaries Institute has provided feedback on findings, draft recommendations and information requests where we can add additional information or commentary, or where we believe the recommendations could be further refined.

### **Draft finding 2.1**

The budgetary treatment of natural disaster costs as an unquantified contingent liability means that governments make decisions about natural disaster risk management without having full information about the potential consequences.

Where governments make no explicit budgetary provision for the costs of recovery from future natural disasters there is a systematic bias against mitigation and insurance.

### **Draft recommendation 3.3**

The Australian Government should publish estimates of the future costs of natural disasters to its budget in the Statement of Risks. It should also provision through annual appropriation for some base level of natural disaster risks that can be reasonably foreseen. For more catastrophic, less quantifiable risks, it is likely to be more efficient to finance the related costs if and when the risks are realised.

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#### INFORMATION REQUEST

*The Commission seeks feedback on approaches for the Australian Government to provision for some base level of natural disaster risk in the budget each year.*

- *What would be the advantages and disadvantages of using historical averages?*
- *Are there more sophisticated models available to estimate potential future liabilities?*
- *How should 'imputed savings' from changes to the Natural Disaster Relief and Recovery Arrangements be estimated?*

The Actuaries Institute considers these points in the draft report to be related, hence will provide commentary for elements of these points in aggregate.

The Actuaries Institute agrees that the Australian Government should include estimates of the future costs of natural disasters to its budget in the Statement of Risks, as identified in draft recommendation 3.3. The "Statement of Risks" should include both expected costs and also costs at different annual return intervals. This provides transparency and encourages planning for the expected cost of natural disasters, and removes some of the disincentives to mitigation identified in draft Finding 2.1. The Actuaries Institute would support an extension of this principle to State Governments, where the same logic could be applied in forming a similar conclusion.

In including an estimate of future natural disaster costs within budgets, and in accordance with the rationale for the recommendation, the estimate of the cost should represent a true and fair best estimate of future costs, with no implicit bias towards prudence or optimism. This estimate can be reviewed yearly to ensure it takes into account the latest information. As such, we have two comments to make regarding the proposed methodology:

- The use of historic natural disaster costs, whilst relatively easy to calculate, will not provide an unbiased estimate of future costs. This would be a volatile estimate, heavily influenced by the existence (or lack thereof) of prior large disaster costs. The pure historic costs would not take into account any mitigation efforts. For example, estimates using historic costs for Queensland in 2010 would be materially lower than the estimates made in 2012, following the severe floods and cyclone in 2011. However, the nature of the actual risk did not materially change during that period.
- Actuaries can partner with Government and other experts in catastrophe modelling to enable a robust estimate. This is a well researched field, both within academia and the private sector.



#### Draft recommendation 4.4

State governments should:

- clearly articulate the statewide natural hazard risk appetite in land use planning policy frameworks
- provide local governments with guidance on how to prioritise competing objectives within land use planning
- provide local government with guidance on how to integrate land use planning and building standards. Consideration should be given to Victoria's *Integrated Planning and Building Framework for Bushfire* in this regard.

Furthermore, local governments should publish the reasoning behind development assessment decisions.

The Actuaries Institute supports the use of risk management principles, including risk appetite statements, within the land use planning process. However, in order to ensure effectiveness these recommendations should be extended to ensure that the overall level of natural disaster risk is effectively managed in aggregate. By necessity, this includes more than just land use planning.

The level of risk related to natural disasters for an individual area of land can be considered as a function of three key factors: the overall use of the land, details around the specific construction on the land, and the natural disaster profile of the area. The first two of these items are directly under the control of society; the last requires modelling to estimate.

If the Government (Australian or State) is to effectively manage the overall risk of natural disasters, it must first articulate its risk appetite for natural disaster costs. These costs should be provisioned for as discussed under recommendation 3.3. This can act as an input into both land use and construction approval decisions. The use of an aggregate risk appetite allows these two items to be effectively traded off. For example if we decide to take more risk in land use we must necessarily be more cautious in construction methodology.

A risk appetite statement articulated for land use only will only solve half of the puzzle, and will not allow the two components of the overall risk profile to be effectively traded off. This could lead to suboptimal outcomes. For example, councils may still elect to approve the construction of buildings that result in a level of risk outside of overall risk tolerances. Councils may also elect to construct buildings of consistent robustness within a zone, whereas the risk profile of that zone may vary materially. To ensure optimal outcomes, construction approval must be cognisant of an overall risk appetite statement in order to ensure each individual building is constructed to a standard that is within the overall risk appetite.



We note that the commission has found that Insurance provides an effective price signal regarding natural disaster costs, and this provides a mechanism for encouraging mitigation by local councils to improve resilience. We recommend that development assessment decisions by local governments must explicitly consider insurance costs. Otherwise, the strong price signal provided by insurance costs may not be considered at the planning stage.

In summary, the Actuaries Institute recommends that State Governments articulate an overall risk appetite statement for natural disaster losses, which should then act as an input into both land use decisions and construction approval decisions at the council level. Actuaries have in depth experience in designing and reviewing risk appetite statements. The use of a risk appetite statement for land use planning only could be expected to lead to suboptimal outcomes, as councils will still retain authority to construct individual buildings within an area that exceed the overall risk tolerance of society.

Please do not hesitate to contact the Chief Executive Officer of the Actuaries Institute, David Bell (phone 02 9239 6106 or email [david.bell@actuaries.asn.au](mailto:david.bell@actuaries.asn.au)) to discuss any aspect of this submission.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'D. Smith'.

Daniel Smith  
President