



**Australian
National
University**

Prof Mark Howden
Director
ANU Institute for
Climate, Energy &
Disaster Solutions
+61 2 6125 7266
mark.howden@anu.edu.a

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National Climate Resilience and Adaptation Strategy Taskforce
Department of Agriculture, Water and the Environment
ncras.taskforce@environment.gov.au

Re: Consultation on a National Climate Resilience and Adaptation Strategy

Dear NCRAS Taskforce,

Please find enclosed a submission to inform a new National Climate Resilience and Adaptation Strategy for Australia. This submission has been prepared by a group of climate change adaptation experts who are part of the ANU Institute for Climate, Energy and Disaster Solutions (ICEDS).

The ICEDS connects industry, governments and broad communities with climate, energy & disaster-risk research from the Australian National University. Our goal is to advance innovative solutions to address climate change, energy system transitions and disasters. We facilitate integrated approaches to research, teaching and policy engagement across disciplines. We also lead the ANU Below Zero Initiative, which is working to reduce the University's greenhouse gas emissions to below zero.

We offer this submission as an expanded response to the Have Your Say consultation survey put forth by the Department of Agriculture, Water and the Environment. Developing a National Climate Resilience and Adaptation Strategy for Australia is an important initiative, and we offer a constructive contribution to help you achieve the best adaptation Strategy possible for Australia as the impacts of climate change accelerate.

In this brief submission we aim to highlight what we see as the:

- a) roles of the Australian Government in adaptation;
- b) dangers of a National Climate Resilience and Adaptation Strategy focussing on provision of information; and
- c) opportunities for catalysing on-ground adaptation measures now.

Institute for Climate, Energy and Disaster Solutions
The Australian National University
Frank Fenner Building, 141 Linnaeus way

Action 2601, ACT Australia
CRICOS Provider No. 00120C

Roles of the Australian Government

Our past research has extensively assessed the role of the Australian Government in adaptation and what makes an effective national strategy (Hussey et al., 2013; Pittock et al., 2015). The NCRAS website states that the role of the Australian Government is to:

- provide national science and information
- manage Commonwealth assets and programs
- provide leadership on national adaptation reform
- maintain a strong, flexible economy and a well-targeted social safety net.

We support the new strategy considering these roles and responsibilities, and suggest a key additional role of the Australian Government that is necessary to strengthen the proposed NCRAS.

The Commonwealth has a key role in facilitating financing of adaptation measures at sub-national scales through national agreements, direct grants, co-funding and other instruments. This additional role of the Australian Government could be explicitly highlighted in the NCRAS to better articulate what will change for Commonwealth assets and programs. In our view, the initial NCRAS documentation places too much emphasis on provision of information and too little focus on Commonwealth leadership. Following our explanation of why this is problematic, we propose eleven opportunities to catalyse adaptation action that better facilitate the Commonwealth's role in facilitating finance and implementation of adaptation measures.

Dangers of NCRAS focussing overly on provision of information

Climate adaptation in Australia is not inhibited by a lack of new or robust data. While additional sources of information are often useful, over the past two decades the Commonwealth has funded extensive modelling and mapping of risks from climate change and options for response, in sectors like: water availability, floodplains, coastal lands at risk, fire prone lands and natural resources management.

If government and non-government bio-physical research, modelling and climate data agencies are asked what is needed for adaptation, they will almost certainly suggest more research, modelling and climate data. We offer the view that there are diminishing returns from further investments in these areas due to the levels of uncertainty as to the precise magnitude and rate of impacts, and because of excellent past investments in these fields. Instead, we consider that your challenge in government is to turn a wealth of existing knowledge into wise, practical

adaptation decisions under conditions of uncertainty. There are many methods for doing this, and we are available to help you if desire.

We certainly agree that the Commonwealth should coordinate access to existing information for climate change adaptation. However, we propose that to show leadership in Australian adaptation the Commonwealth should additionally catalyse adaptation action. There are a multitude of no- and low-regrets adaptation measures that do not require new climate change projection information to implement. There are now many calls that it is now time to start implementing these practical actions, including: enabling adaptation financing mechanisms for sub-national governance organisations; setting national standards with the States in key areas, like building standards and coastal development; co-funding hazard reduction measures, like floodplain restoration; benchmarking and sharing best practice adaptation measures from the local and State scales; and undertaking adaptation in areas of Commonwealth jurisdiction (e.g. aged care, defence, Federal lands and waters).

Implementing adaptation does not require further generation of information in every case, and so there is no reason for further delay of adaptation action.

Opportunities to catalyse adaptation measures

There is a policy reform window for the Commonwealth to catalyse practical on-the-ground adaptation measures in partnership with the states. We suggest focussing on the following eleven actions, many of which require little additional Commonwealth resourcing to implement:

1. **Build on existing adaptation plans.** Most States, Territories and regional organisations of councils have existing climate adaptation plans. The Commonwealth can assess and synthesize these existing plans and identify ways to co-fund and otherwise support the priorities that these governments have already identified. This could involve substantial Commonwealth co-funding.
2. **Betterment.** The Commonwealth has thus far focused on the Recovery element of the disaster management framework PPRR: Planning > Preparation > Response > Recovery. The NCRAS will necessarily have to shift the emphasis to the earlier stages of Planning and Preparation to be successful in supporting adaptation. Overseas examples of 'betterment' programs involve identifying infrastructure and settlements in harm's way and planning how to relocate or rebuild them to be resilient. When existing infrastructure is destroyed, this preparation enables recovery more quickly and efficiently, rather than rebuilding 'as was' in harm's way (and often slowly). This could involve modest Commonwealth co-funding.
3. **Better building standards.** A lot of adaptation benefit can be gained by improving national building standards for example to include Passive House standard for building

envelopes. This can help accelerate adaptation to such impacts as heatwaves, fires and flooding. Reducing the impacts of heatwaves would ameliorate the leading cause of death due to climate change. There are also climate change mitigation benefits through major improvements to energy efficiency. There would be minimal costs to the Commonwealth in improving national building standards. Additionally, substantial Commonwealth co-funding could be allocated to retrofitting existing buildings.

4. **Coastal development standards.** Sea level rise and storm surges are already destroying public and private infrastructure. Land owners are resisting local and State government efforts to prevent new development in harm's way and in doing so are often promoting maladaptive responses such as building sea walls. A Federal-State agreement on limiting development in coastal areas at risk and indemnifying local governments from applying zoning restrictions would help facilitate a 'managed retreat.' This adaptation action can build on existing Geosciences Australia mapping. There would be minimal costs to the Commonwealth in improving national coastal development standards.
5. **Buy back schemes.** There has been significant development in areas of Australia that has placed people in the way of extreme floods, fires and storm surges. Rebuilding homes destroyed during these extreme events merely extends and expands the ongoing risk. Throughout Australian history there are many positive examples of relocating communities out of harm's way, for example, the town of Grantham in QLD after a 2011 flood. Federal co-funding of state schemes to buy out residents and businesses destroyed by fire, flood and storm surge could dramatically reduce risks and economic losses. This measure could involve substantial Commonwealth co-funding.
6. **Floodplain restoration.** Floodplains will continue to flood. A common approach of building more levees is not an effective way of managing increasing flood risks. There are programs being implemented globally that instead 'give rivers room', reducing risk by restoring floodplains. These include schemes to restore paleo-channels around urban settlements as floodways, buy out the most flood prone homes and businesses, and improve flood easement zoning to maintain safe flooding zones. Use of restored floodplains for agriculture, recreation and nature conservation generates co-benefits. These adaptation measures could involve Commonwealth co-funding. There are significant opportunities in the Murray-Darling Basin to accelerate stalled 'constraints relaxation' projects where funding is already allocated.
7. **Fire management.** Incorporating more Indigenous land management practices in southern Australia can help reduce fire risks and create environmental and socio-economic benefits. As discussed above, higher building standards to keep out smoke and fire, and co-funding of State schemes to buy out high-risk properties can further reduce impacts of increased fire risk. Co-funding schemes to retrofit sub-standard infrastructure (e.g. schools, nursing homes, etc.) to meet modern fire resilience standards would also help. This could involve Commonwealth co-funding.
8. **Environment and water.** The Commonwealth has already funded CSIRO to provide information to Australia's 56 regional natural resource management organisations for adaptation. Whilst there were issues with that program, reinvestment in adaptation programs of regional natural resource management organisations, catchment management authorities and Indigenous land and sea management organisations would enable the expansion of many practical adaptation interventions (e.g. restoration of riparian lands) leading to additional co-benefits. These adaptation measures could involve

Commonwealth co-funding.

9. **Agriculture.** Adaptation in the Australian agricultural sector is mostly incremental and adaptation progress is therefore susceptible to being overtaken by severe impacts of climate change. There is a need for better planning that will also help identify transformative agricultural adaptation options, including opportunities for phasing out some types of agriculture and expanding other relevant industries. There would be minimal costs to the Commonwealth in improving agricultural planning.

10. **Power supply.** Improving and securing electricity supplies will continue to be important. Moving transmission lines to underground in vulnerable areas could reduce risks (such as fires started by power lines). Other adaptation actions could include establishing micro-grids in rural communities, reducing the risks of power-loss due to transmission line failures during severe events. In the Black Summer fires, this would have had several other major benefits such as maintaining mobile phone communications. These adaptations could involve Commonwealth co-funding.

11. **Information coordination.** Creating and financing institutions to collate data and benchmark good practices (around impact, vulnerability and adaptation from local and State governments and others) will help further accelerate adaptation. A new national knowledge broker organisation independent of existing information provision agencies would provide leadership and demonstrate commitment to unbiased information coordination. This would require modest Commonwealth funding.

Proposed practical adaptation measures	Assessed level of Commonwealth investment
Building on existing sub-national adaptation plans	Medium - high
Betterment – focus on Preparation over Recovery	Low - medium
Improving building standards	Low - medium
Improving coastal development standards	Low
Buy-back schemes	High
Floodplain restoration	Low - medium
Fire management	Varied
Refocusing on adaption in natural resource management	Low - medium
Improving agricultural planning	Low

Adapting power supply	Varied
Better information coordination	Medium

The eleven opportunities that we outline here could generate huge co-benefits for Australian society. They will save thousands of lives and generate large economic benefits. They will reduce the damages inflicted by climate enhanced disasters and shorten the time needed to recover from their impacts. They will help conserve the environment and natural resources. And they will improve infrastructure and increase employment.

We stand ready to assist the NRCAS Taskforce in developing the opportunities that we outline above.

For enquiries in relation to the matters raised in this letter, please contact Prof Jamie Pittock on 02 6125 5563 or jamie.pittock@anu.edu.au.

Yours Sincerely,

Prof. Mark Howden
Director of the ANU Institute for Climate, Energy & Disaster Solutions (ICEDS)

Contributors:

Prof. Jamie Pittock
Co-Convenor, ANU Master of Climate Change Program
Fenner School of Environment and Society

Ewelina Przybyszewski
Strategy and Business Development
ANU Institute for Climate, Energy & Disaster Solutions

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