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Department of Infrastructure, Transport, Regional Development, Communications and the Arts

To Whom It May Concern

Subject: *A National Urban Policy for Australia*

Thank you for the opportunity to provide specialist input to the draft National Urban Policy for Australia being developed by the Department of Infrastructure, Transport, Regional Development, Communications and the Arts.

Natural Hazards Research Australia (the Centre) is Australia's research centre for natural hazards resilience and disaster risk reduction. The Centre works closely with Commonwealth, state and territory emergency management, recovery and resilience agencies to deliver a national strategic research agenda supporting their activities and our communities, as well as actively promote research utilisation to ensure best-practice backed by research.

The research the Centre undertakes promotes resilience to the impacts of natural hazards and reduces disaster risk to support the needs of a variety of critical stakeholders, including all levels of government, emergency services, industry, not-for-profit organisations and communities across Australia.

The Centre's 10-Year Research Strategy and Biennial Research Plan outline the current and future research direction and highlight the user-driven model. Three years into our ten-year lifecycle, the Centre has already established an extensive portfolio of core and post-graduate research projects delivering outcomes that enhance the safety, resilience and sustainability of urban environments.

A National Urban Policy for Australia

Natural hazards pose significant risks to Australian cities with threats from floods, cyclones, severe storms, earthquakes, heatwaves, bushfires and tsunami. Research clearly highlights Australia's vulnerability to increasing and worsening natural hazards is due in part to climate change, and also the continuous expansion of urban development.

It is likely that in the future:

- the impacts of natural hazards across societal, environmental, infrastructure and financial systems will significantly increase;
- compounding hazards, whose impacts are far greater than the sum of the individual disasters will become regular occurrences;
- more people will live in an almost constant state of preparation for, or recovery from natural hazards;

- disasters will be more complex to prepare for, respond to and recover from as our urban systems become more interconnected and infrastructure is transformed, leading to cascading and unforeseen impacts from natural hazards;
- insurance unaffordability will rise, especially in high-risk areas;
- impacts from natural hazards on physical and mental health will increase;
- vulnerabilities will change due to trends such as decarbonisation;
- significant and accelerated species and habitat loss; and
- national scale disruption caused by natural hazards will increase, requiring greater assistance from the Commonwealth Government for states, territories and individuals.

The focus on natural hazards resilience in the draft National Urban Policy for Australia is strongly supported, as it is the only way of mitigating future natural hazard challenges.

Possible actions

In the aftermath of natural hazards, change is often reactive and incremental. A proactive, ambitious model with long-term commitment from all levels of government, agencies and the private sector is required to enable us all to effectively adapt to our future climate. Innovation backed by research is essential to this model's success, as is a whole-of-community approach that involves government, business, First Nations groups and the community.

Research states the following are essential in building and maintaining urban resilience in the face of increasing natural hazard risk:

1. ***Better land-use planning.*** Australian communities must adopt strategies so future development is appropriate in a changing climate. There is a need nationally for policies to incentivise development in areas of low natural hazard risk and consider the future impacts of climate change.
2. ***Building standards.*** Research already shows how houses and infrastructure must be built to be resilient to natural hazards. Mandated construction practices that ensure resilience to natural hazards in warmer climates are essential. Equally important is the establishment of a national risk-based retro-fitting strategy to ensure the ability of existing infrastructure and building stock to not be left behind.
3. ***Some places are untenable for ongoing housing.*** The reality is that people may not be able to live where they live now. The elimination of risk from natural hazards is only possible by removing houses and infrastructure from those parts of Australia at risk of natural hazards. Major buy-back schemes, including in major cities are not new, are now in place to relocate residents from floodplains at risk of repeated flooding. These programs contain inherent challenges such as cost, disruption to individuals and communities and a reliance on willing sellers. Not everyone will want to move. To ensure communities are empowered to decide their own future (see more here), these programs must be in place well before a major disaster strikes.
4. ***Mitigation.*** It is impossible to eliminate natural hazard risk completely, meaning risk reduction through integrated mitigation approaches that consider communities' current and future risk profiles are critical to reducing and maintaining risk at acceptable levels.
5. ***Work better with natural landscapes*** including incorporating First Nations knowledge, to be open to how the environment can play a vital role in disaster risk reduction. For floods we can reforest catchments and restore wetlands. Such nature-based-solutions can reduce natural hazard risk and lead to enhanced biodiversity and improved wellbeing including via cleaner air and water.

Accountability for these measures is shared across all levels of government, however it must be noted that local government can often lack the capacity to effectively address natural hazard risk.

Future policies must consider the supports needed by local governments to implement future resilience and climate adaptation measures. Significant opportunities also exist to invest in social infrastructure and community organisations with strong linkages to community members most vulnerable to the impacts of natural hazards, driving community-led, place-based approaches that build and strengthen social cohesion.

Natural Hazards Research Australia research

The Centre's user-driven research projects offer opportunities to provide useful, useable evidence in the urban resilience context. A total of more than 60 projects are currently committed to with funding, with further research investments planned. Examples of current research projects relevant to this submission include:

- *Natural hazards and resilience in complex urban systems*
  This research focuses on better understanding how to prepare urban environments and those who live in them to build resilience against compounding natural hazards. The research seeks to understand the conditions for investment that would provide optimal disaster resilience in major Australian urban areas.
- *Modelling the impacts of natural hazards on interconnected infrastructure networks*
  This research will establish the extent of direct and indirect infrastructure losses; develop better estimation methods to understand the impact of compound disasters on infrastructure losses; and provide a framework to better understand the value of infrastructure resilience investments.
- *Evaluation of Resilient Homes Fund*
  This research will evaluate Queensland's Resilient Homes Fund, addressing the four dimensions of resilience (physical, financial, social, and emotional) by assessing buy-back, retrofit and house-raising, to demonstrate the success factors and lessons learnt.
- *Integrated solutions for bushfire-adaptive homes*
  This research will provide a better understanding of the bushfire failure rates of homes built to modern construction standards; investigate what physical building material, housing designs or additional safety measures would best reduce failure rates; and explore which social levers can be better utilised to influence and support communities to better protect homes from bushfires.
- *Foundations in Indigenous disaster resilience*
  This research addresses the lack of knowledge and information regarding Indigenous peoples, change and disaster resilience and will create an Indigenous disaster resilience community of practice, embedding Indigenous leadership in disaster resilience and climate change adaptation.

A series of post-flood social research projects were recently completed exploring community experiences of flooding in New South Wales and Queensland. Findings provide valuable insight into community perception of risk, warnings, agency communications, response and recovery and are already being used by agencies to better engage residents in flood preparedness and advice, including the New South Wales State Emergency Service in the Hawkesbury-Nepean Valley...

The Centre established and maintains the Australian Disaster Resilience Index, a tool that measures individual communities' resources and abilities to prepare for, absorb and recover from natural hazards; as well as those that enable learning, adaptation and problem solving. In partnership with the National Emergency Management Agency (NEMA), the index is currently being updated to reflect additional and emerging resilience factors.

To kickstart sector discussion around the big, bold ideas needed to ensure the capacity and capability to meet the challenges of a climate changed Australia, the Centre recently released the *Be Ahead of Ready* report.

Measures are needed to ensure the current and future cross-sector workforce that will inform, develop, implement and maintain the National Urban Policy for Australia. The Centre's scholarship, fellowship and work placement programs aim to contribute to meeting this challenge in the natural hazards space, fostering the next generation of leaders in natural hazards research.

The Centre welcomes further opportunities to discuss this submission.

More information on the Centre's research can be found at naturalhazards.com.au.

I look forward to providing further information and answering any questions you may have.

Sincerely

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Andrew Gissing

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