

SUBMISSION

Submission to the Productivity Commission

Housing Supply Regulation Inquiry (Interim Report)

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Key points

Natural Hazards Research Australia asks the Productivity Commission to consider the following:

- natural hazard risks in Australia are already significant, and are forecast to worsen in coming years in line with the observed effects of climate change
- decisions regarding the location and nature of development can strongly influence hazard and disaster risks, with consequent implications for community safety and recovery impacts
- an effective regulatory approach is therefore essential to community safety and resilience, and planning processes should adopt a holistic approach that factors in risks from all relevant hazards so development can be more effectively directed to suitable locations.

Background

Natural Hazards Research Australia is funded by the Australian Government to operate the national Centre for natural hazards resilience and disaster risk reduction research.

The Centre works closely with governments and our partner organisations to deliver a strategic research agenda and mobilise the uptake and active use of research across Australia.

It undertakes research that promotes resilience to the impacts of natural hazards and reduces disaster risk, to support the needs of a variety of critical stakeholders – including governments, emergency services, industry and communities.

Planning controls play a vital role in managing natural hazard risks

Australia is exposed to a variety of natural hazard risks. Many are projected to further worsen in the future due to climate change.

Natural Hazards Research Australia notes that:

- Housing sector regulation is essential to ensure safe, resilient and sustainable communities in the face of worsening natural hazard risk.
- Avoiding development in high-risk areas is essential to managing natural hazard risk and thereby ensuring communities are safe, resilient and sustainable. No level of emergency response can make up for poor land-use planning decisions.
- The placement of homes in areas that are more exposed to natural hazards increases disaster risk to building occupants, infrastructure owners and financial institutions.
- This increased risk ultimately increases the potential exposure of governments which will face rising demands for resources for disaster recovery and reconstruction.
- Costs are not just direct, such as rebuilding, but include costs resulting from broader social impacts, such as increased prevalence of mental health conditions and domestic and family violence following disasters.

Natural Hazards Research Australia supports:

- the Productivity Commission's previous recommendation to embed climate risk in strategic planning to avoid increasing Australia's exposure
- the National Urban Policy's conclusion that our cities, communities and systems should be resilient to the impacts of climate change and other risks.

While reforms and investment in land use planning, urban design and home construction are required, trade-offs must be managed to ensure a successful implementation of consistently resilient homes. Not all homes in all parts of Australia will be exposed to the same level of natural hazard risk, while not all individuals or organisations will be able to afford the highest possible standard of construction.

Housing affordability must be considered and an approach that understands and mitigates these trade-offs in an integrated, holistic and socially equitable way that provides for resilience is vital.

Land use planning specifically should:

- be informed by risk transparency across all hazards and possible event magnitudes so that development can be effectively directed to suitable areas
- consider acceptable levels of risk consistent with the proposed nature of development
- consider the impacts of climate change and cumulative development on future disaster risk
- consider both the direct (e.g. loss of life and building damage) and indirect (e.g. isolation or infrastructure failure) impacts of natural hazards including any cascading or compounding characteristics
- take a multi-hazard approach to ensure resilience against multiple hazards and their interactions (e.g. extreme heat and bushfire)

- adopt a systems approach that considers spatial land use, design, construction standards and other public safety measures
- ensure people can be safely evacuated from a location, but consider in decision making that not all residents will choose to evacuate
- address any externalities of development
- not place undue additional demands on emergency services and recovery organisations.

Planning considerations in areas of lower hazard risk

Increasing building density in areas of lower natural hazard risk makes good sense, but should be planned in a manner that promotes strong urban resilience and public safety. For example:

- areas may still become isolated during or in the aftermath of a hazardous event, requiring consideration of infrastructure resilience and the suitability of building occupants for isolation
- increasing density may reduce evacuation capacity for existing residents in higher hazards areas.

Reduced distance between buildings can also contribute to fire risk, with recent US research concluding that building separation distance is a critical factor influencing fire risk, emphasising the importance of considering how structures are arranged relative to each other.¹

Improved resilience of existing homes is vital for maintaining housing supply

To safeguard existing housing supply, attention must be given to ensuring the resilience of existing housing. This requires strategies to reduce existing natural hazard and disaster risks. These may include:

- investing in community-scale measures such as flood levees to reduce the probability of impact
- encouraging household-level investment to improve resilience, for example via retrofitting of buildings and landscape improvements.

Such measures must be supported by sound risk transparency to enable effective decision making. This was explored in our previous submission to the Productivity Commission's *Investing in cheaper, cleaner energy and the net zero transformation* inquiry.²

Some locations are unsuitable for housing due to their risk profile. In such locations, reducing the impact of natural hazards is only possible by relocating houses and businesses away from areas of high natural hazard risk.

¹ Zamanialaei, M., San Martin, D., Theodori, M. et al. Fire risk to structures in California's Wildland-Urban Interface. *Nat Commun* 16, 8041 (2025). <https://doi.org/10.1038/s41467-025-63386-2>

² Natural Hazards Research Australia (2025) Submission to the Productivity Commission's Investing in cheaper, cleaner energy and the net zero transformation interim report. [Available Online] https://naturalhazards.com.au/sites/default/files/2025-10/Productivity_commission_submission_2025.pdf

Recent research by the Centre evaluated the Queensland Resilient Homes Fund program, consisting of investments in house raising, retrofitting and buybacks. Findings concluded that the program delivered valued resilience outcomes for many homeowners.³

Relevant research by the Centre

The Centre's user-driven research projects offer opportunities to provide further evidence that is useful in the context of urban resilience. The Centre has currently committed funding to 112 projects, with further research investments planned. Examples of research projects relevant to the interim report include:

Effectiveness of land-use planning flood controls on buildings

Research examining the effectiveness of land use planning controls⁴ identified:

- controls are broadly viewed as effective
- challenges include:
 - assessment of applications outside of adopted flood study extents
 - managing effect of legacy development
 - consideration of different flood types
 - time to adopt controls in planning instruments
 - management of competing interests
 - unlawful development / compliance

Bushfire risk at the rural-urban interface

This project has provided several key findings related to bushfire planning including:

- the need to consider regulation of zero fuel zones directly adjacent to homes. This has recently been undertaken in California
- that bushfire damage can occur well beyond flammable vegetation during catastrophic fire conditions

Post-event disaster research

Recent post-events studies have been completed following cyclones [Alfred \(2025\)](#) and [Narelle \(2026\)](#). These studies demonstrate the importance of real-world evaluation of building construction practices. For example, research post-Cyclone Alfred found issues with tall residential buildings including waterproofing, pedestal-mounted pavers on balconies, windows at or near ground level and differential pressures within buildings. Cyclone Narelle highlighted vulnerabilities of rooftop solar PV systems to strong winds.

³ Jarzabkowski, P (2026) Evaluation of the Resilient Homes fund. [Available online] https://naturalhazards.com.au/sites/default/files/2026-06/T4-A6a_Final%20Report_Evaluation%20of%20the%20RHF_20260605.pdf

⁴ Evan, S (2026) Effectiveness of land use planning flood controls on buildings. [Available online] <https://naturalhazards.com.au/sites/default/files/2026-06/Sam%20Evans-presentation-NHRF26.pdf>

Multi-hazard resilient buildings

This project aims to review existing building requirements and building guidelines for a range of natural hazards across Australia, with a particular focus on New South Wales. The project will also consider best practice building and construction standards, nationally and internationally, to address multiple hazards and identify gaps within these standards. The findings of this project will inform future updates to building standards and guidelines, ensuring a more resilient built environment capable of withstanding multiple hazards.

Integrated solutions for bushfire-adaptive homes

This project is increasing our understanding of the effectiveness and practical feasibility of integrated physical and social strategies to improve the protection of residential properties from the effects of fire. Specifically, the research will:

- explore the causes of the failure rates of homes built to AS3959
- investigate what physical building material, housing designs or additional safety measures would best reduce failure rates
- explore which social levers can be better utilised to influence and support communities to better protect homes from bushfires.

Key initial findings include:

- most common factor associated with house survival was building design and practice
- post-bushfire surveys generally support the conclusion that modern standards and planning provisions improve house resilience.

Testing and improving bushfire-prone area construction standards

This is a new project that aims to critically examine key assumptions and address knowledge gaps in the application of the Australian Standard AS3959. The project focuses on the construction requirements, providing an independent evidence base to inform improvements to construction requirements.

[SUBMISSION END]