



Productivity Commission inquiry into investing in cheaper, clear energy and the net zero transformation

➤ Submission

September 2025



Re: Inquiry into investing in cheaper, clear energy and the net zero transformation

Thank you for the opportunity to make a submission in support of the Productivity Commission inquiry 'Investing in cheaper, clear energy and the net zero transformation'.

It is encouraging that the Productivity Commission recognises the need for increased investment and greater efforts towards climate adaptation. This is particularly the case as Australia already faces significant existing disaster risks, with a warming future and increased disaster risks guaranteed.

About Pollenter

Pollenter is an innovative consultancy with a focus on resilience and climate change adaptation. It has been established to connect, collaborate, build knowledge and partnerships for resilient and sustainable communities. The partners at Pollenter have developed and successfully implemented and monitored multiple programs that have provided the template for systems-based resilience and adaptation planning across NSW and Australia, including the NSW State Disaster Mitigation Plan, the NSW Hawkesbury-Nepean Valley Flood Risk Management Strategy.

We would like to point out some other key areas of reform to support climate adaptation that the Productivity Commission may wish to consider in its final report.

Climate data

The interim report points to the need for more accessible central source of data on climate risk information. The following points are made to further unpack the reasons behind the lack of availability of consistent climate risk information suitable for decision making by individuals and governments.

To compile climate risk data the following information is needed:

- a) hazard profiles today,
- b) hazard profiles as affected by climate change,
- c) the exposure and vulnerability of current assets and populations, and
- d) further information on the multi-hazard, cascading and compounding impacts.

This means that consistent climate risk data requires:

1. complete hazard information for all climate hazards suitable for the decision,
2. complete information on the impacts of climate change on all hazards
3. complete spatial information on the location and vulnerability profile of existing assets (e.g. the floor levels, insulation profile, heat resistance of elections in of homes, infrastructure)
4. a spatial understanding of potential future development and populations



5. information on community resilience and vulnerability now and into the future (e.g. will people be able to evacuate, how susceptible is that population to heat)
6. agreed methodologies for multi-hazard risk assessment, and information to enable assessing cascading and compounding impacts.

In addition, to drive action, the data needs to be accepted as 'valid' by the relevant decision maker, so it likely needs to be updated routinely.

To drive action, the data also needs to be communicated in a way that is appropriate to the decision maker. For example, the information would need to be tailored differently to inform a homeowner compared to a treasury confirming a need to upgrade a road to increase its resilience to floods or a land use planning authority deciding the density and location of future development.

All of this data is generated by different organisations, and no one agency can 'vet' its completeness, even if one is assigned to coordinate it. Its acceptance does often need to be negotiated every time it is used.

Further detail is provided below,

1. complete hazard information for all climate hazards suitable for the decision

As the interim report notes, hazard information for all climate hazards is patchy, and sometimes limited in granularity. The reason for this is that across many parts of Australia, the management of some natural hazards e.g. flood/coastal has been historically delegated to local governments by state governments, with methods, supporting funding and high-level support provided by state governments. Each council created information at different times only when funding is available, and the methods sometimes evolved. State governments did not always compile the data, and pulling together information across council boundaries sometimes proved difficult if attempted due to the different types/scales of data across boundaries. Publishing this information has also at times proven difficult for local government due to the perception that it will affect house prices and create community backlash.

On the other hand, top-down attempts to model hazards at too high level often does not yield the granularity of information required for decisions. A balance needs to be struck at a regional level.

In addition, to drive decisions, the hazard information needs to be probabilistic. This means that the probability of hazards events of different severities occurring needs to be modelled. This enables assessment of interventions across various scenarios. This then enables a risk tolerance level to be agreed by decision makers. However, not all hazards have methods for developing probabilistic data. For example, these methods are progressed for flood hazards, but are only now being developed for heat.



Recommendation: Consistent methods are developed for development of probabilistic natural hazard data at the state and national level. Funding is put in place for hazard modelling to be completed regionally in a way that makes sense for the hazard (e.g catchment for flood), on a rolling update cycle.

2. complete information on the impacts of climate change on all hazards

The impact of climate change on natural hazards is an evolving science. This is because much climate change data is based on changes in averages (e.g. average number of days over 35, changes in average rainfall or runoff). But understanding the impact of climate change on natural hazards requires an understanding of the effect of climate change on extremes, or the multiple drivers of hazard such as bushfire (rainfall, number of hot days among others). These methods have not been agreed for many hazards.

In addition, the climate scenarios, and well as timeframes, to model to are not agreed. Some analyses look at more extreme levels of climate change (e.g. RCP8.5) but can often be dismissed when making an decision as requiring a level of investment that would be 'gold plating'. The agreement to what scenario to model and plan to is not a scientific decisions, but a political one. But without that level of clarity the appropriate information will not be available.

Recommendation: Agreed methods for assessing climate change impact on natural hazards extreme are progressed at the state and national levels, with climate scenarios for various decisions types and planning horizons identified (e.g. RCP 8.5 for greenfield land use decision and major investment lasting beyond 50 years).

3. complete spatial information on the location and vulnerability profile of existing assets

Information on private infrastructure assets is often difficult to obtain. It is at times shared with government of 'emergency' purposes, but not for planning purposes that enable it to be utilising to inform non-emergency planning for adaptation. Collaborative and regulatory arrangements to support adaptation planning for private infrastructure assets are also currently limited in scope.

Even information on government owned assets is often scant and not easily collated. To assess risk, information about the exposure and vulnerability of these assets is needed, e.g. floor levels compared to potential flood levels , the capacity of various electronics in the asset to cope with heat or the resistance of the material of the electricity pole to fire and so on.

In addition, the current location and vulnerability profile of homes is needed to assess this information. This information exists in patches across different government organisations but there is often no resourcing to compile it and share it for purposes of adaptation. Often efforts to develop this information is duplicated across agencies.



Recommendation: State and national governments collate infrastructure and housing exposure and vulnerability information, and to share it so that effort is not duplicated. Support development of collaborative arrangements between government and private infrastructure asset holders to enable risk assessment of privately held infrastructure assets.

4. a spatial understanding of potential future development (this would require land use and demographic projections)

Future land use and demographic projections are often limited in time horizons and scope. In addition, they are often not developed in spatially granular enough way to enable climate risk assessments. These gaps need to be filled to enable the information to be collected.

Recommendation: Improve land use projection information, including improving spatial granularity.

5. information on community resilience and vulnerability now and into the future

In order to be able to assess current and future climate risks, the resilience of community needs to be factored in. The capacity of community to cope with hazards will be a key overall determinant of risk (e.g. will people be able to evacuate, how susceptible is that population to heat). However, the factors that determine community resilience continue to need to be better defined so that they can be measured. Measurement methods are also evolving e.g. evacuation modelling. There are a number of projects underway in Australia that are progressing this agenda.

Recommendation: Progress definition and measurement of community resilience.

6. agreed methodologies for multi-hazard risk assessment, and information to enable assessing cascading and compounding impacts.

To gain a holistic picture of climate risk, a profile of multi-hazard risk is needed, i.e. the cumulative risk of all hazards. Methods to compile multi-hazard risks are evolving. Further development and agreement to these methods is needed.

In addition, information on how impacts cascade and compound potentially from one impact to another e.g. electricity service impacts on health, food supply etc. is often limited. To enable this information to be collected, either sophisticated modelling is required, or assessments that bring multiple stakeholders together to understand the cascading impacts.

Recommendation: Invest in methods to develop multi-hazard risk assessment, and cascading and compounding risks.



Precinct resilience

The interim report makes many recommendations relating to building housing resilience. This is very worthwhile. However, it should be noted that some of the major ways that housing resilience can be improved are decisions that are made up-stream of a home owner, including where housing is approved, and the standards to which it is built. Further, to address existing risk, it may be more cost efficient to intervene at a regional scale rather than house by house (e.g. raising a levee, sea wall or relocating settlements).

For the most efficient package of adaptation solutions to be identified, all interventions need to be considered. This includes those that can be made at the level of the household, to improvements in infrastructure resilience, or investments in mitigation infrastructure, or improvements in warning systems or increased awareness and preparedness campaigns to build community resilience.

However, the mechanisms for identifying the most effective package of solutions through 'precinct resilience' planning are limited, as local councils are often solely responsible for managing hazard risk. In addition, funding to make these interventions is often beyond the scale of any one council. The best approach would be to enable and fund collaboration at the regional scale, between local, state and federal government to identify all the potential options as responses to enable adaptation now and into the future, and conduct a comprehensive analysis of the costs and benefits of these options, and then test these with community. This would enable the most effective interventions to be prioritised.

Recommendation: Create mechanisms and resource cross government regional adaptation planning at the precinct or place level to identify the most efficient adaptation interventions.

Monitoring, evaluation and learning

It is true that improved monitoring, evaluation and learning would support adaptation planning. One other barrier to consider in the coordination of these efforts is the need to bridge efforts in the space of climate adaptation and disaster resilience. These efforts are managed through separate agencies and spheres at the national and state level, but effective and efficient use of resources requires their coordination.

In appointing the Climate Change Authority or any other as the coordinator, this would need to be managed. For example, the Disaster Ready Fund (DRF) support projects to reduce future disaster risk, which means it is a source for climate adaptation funding. However, the opportunity and efforts among agencies and professionals leading climate adaptation planning are at times not joined up, limiting reach and efficacy.



We hope this submission supports the Commissions work and look forward to the Final Report. If we can be of further assistance during the Inquiry, please contact me at [REDACTED]

Yours sincerely,

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Building resilient & sustainable communities

CONTACT US

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