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Submission to Senate Inquiry: Recent trends in and preparedness for extreme weather events

Senate Standing Committees on Environment and Communications

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Summary

- A significant proportion of public and private housing remains largely unprepared for extreme weather, including heatwaves.
- The mandatory disclosure energy star rating scheme must not be delayed further and should be publically released to allow consumers to understand the thermal efficiency of houses.
- The 2020 deadline for auditing public housing stock should be brought forward so that housing can be assessed for their adequacy to copy with heat extremes in the near term.
- Upgrades to the energy and thermal efficiency of public housing are required to ensure these buildings are safe.
- To adequately prepare all housing stock, mandatory minimum energy, health and safety standards for rental properties, both public and private, must be introduced as a first step.
- Local Governments need support to prepare and implement adaptation plans, and to adequately respond to heatwaves.

Introduction

The world's leading climate scientists, including the CSIRO, have provided strong evidence that the frequency, intensity and duration of extreme weather events is going to increase as climate change progresses and average temperatures rise over the next century (CSIRO, 2013). They list some of the impacts of extreme weather events in recent years as:

- The Victorian bushfires in early February 2009 killed 173 people and more than one million animals. They destroyed more than 2000 homes, burnt about 430 000 hectares, and cost about A$4.4 billion (Victorian Bushfires Royal Commission, 2010).
- The south-east Australian heat wave in late January 2009 resulted in 374 more deaths in Victoria than what would be expected (Victorian Government, 2009).

- The hailstorm in Sydney on 14 April 1999 resulted in insurance claims totalling A$4.3 billion (2011 normalised) (Insurance Council of Australia, 2013).
- The floods in eastern Australia in early 2011 cost about A$12 billion in lost revenue (1.7 per cent of GDP), mainly through lower coal and agricultural production (Swan, 2011).

This inquiry into preparedness of Australia for extreme weather is most welcome and timely.

This submission is primarily concerned with the preparedness of rental housing, both public and private, for extreme weather events. However, there are many other areas that require attention, and I would direct you to the submission of my colleague, Senator Christine Milne, for further information.

Preparedness of key sectors and the need for standards and legislative reform

Public Housing

The public housing sector is largely inadequately prepared to deal with extreme weather. In terms of design and energy efficiency for moderating extreme temperatures, protecting from storms, and thermal efficiency for affordable heating and cooling, there is much work to be done.

New public housing is required to be a 6 star energy rating by regulation, however much of the Victorian public housing stock was built in the 1930s, 1960s and 1970s, and was not designed with concerns such as climate change in mind. Anecdotal evidence suggests that the energy star rating of pre-2003 public housing would be low, however, establishing the details of this has been hampered by the unreasonably long delay in the release of the mandatory disclosure of residential building energy, greenhouse and water performance scheme, which would provide the framework by which public housing stock could be consistently and transparently rated. The residential mandatory disclosure scheme must be finalised and released urgently.

Through the Council of Australian Governments (COAG) National Strategy on Energy Efficiency (2009), governments across Australia have committed to energy star rate public housing stock by 2020. The timeline for this commitment must be brought forward, in order that a proper assessment of our public housing infrastructure and the associated preparedness for extreme weather events now and into a more dangerous future can be determined promptly. We cannot afford to wait. This summer we have had record breaking heat, with the record for the number of consecutive days where the national average maximum daily temperature exceeded 39°C being almost doubled from the previous record of four consecutive days in 1973 up to seven days in 2013 (Bureau of Meteorology, 2013). The late January 2009 heatwave in South- Eastern Victoria resulted in 374 more deaths in Victoria than what would be expected. The climate is already changing and the risks to vulnerable households are growing. It is not acceptable to infer that because the majority of people who died in the 2009 were over 75, that their deaths were not preventable as was done by a senior departmental representative during a parliamentary inquiry (Parliament of Victoria 2010). It is critical that we value and protect all people at all ages, and adequately prepare for heatwaves.

Some work has been done to upgrade public housing in Victoria, including the provision of efficient light globes and triple A shower heads, some solar hot water, and a basic retrofit to improve some

dwellings. However, this fails to meet the growing need of the aging infrastructure and the increase in aging populations in public housing.

The vulnerability to an extreme weather event on a particular group is often measured in terms of the likely exposure to the event, combined with sensitivity to the event, and with the adaptive capacity of the group.

There are some 74,000 direct tenure and community managed properties across Victoria, much of which is in metropolitan Melbourne, including 44 high-rise public housing towers across Melbourne's inner suburbs. These urban areas are particularly exposed to extreme heat. A Parliament of Victoria (2012) Inquiry into Environmental Design and Public Health in Victoria found that the urban heat island effect and air quality issues increase the risks of climate change to public health.

Public housing residents are also at heightened exposure to extreme events due to poor quality housing. Much of the pre-2003 housing stock, (that is, those properties built before minimum energy star ratings for new builds came into effect), is likely to be of poorer quality in terms of thermal efficiency. Many older buildings were built without insulation, passive cooling or heating considerations, with air vents that allow uncontrolled air movement, and increasingly have gaps and cracks that develop with age. Ceiling fans are generally not installed in public housing and windows are only able to be opened a fixed & restricted amount in high rise buildings. Few would have external window shades and air conditioners are not installed accept in the case of medical advice. These factors make public housing residents less able to moderate temperatures during consecutive days of extreme heat or cool. Units on the northern side of high rise estates are particularly intolerable and unsafe. This not only impacts residents on days of extreme weather, it also has an ongoing cost burden. These homes are harder to keep warm in winter and cool in summer due to poor thermal efficiency leading to higher energy bills for those who can least afford it.

Public housing residents also experience increased susceptibility to heat-related illness, when compared to other Victorians. McInnes, et al. (2008) found that the risk of death and illness during an episode of extreme heat increases amongst those who are:

- aged 65 years or older
- socially isolated
- dependant on others for care particularly if confined to bed
- poor
- homeless
- and having a pre-existing illness.

There is a strong overlap between the public housing resident profile and the groups who are at greater risk of heat-related illness, thus they are likely to be more sensitive than other households to extreme events they are exposed to.

The adaptive capacity for public housing residents is limited for two key reasons. These are low income households who do not have the financial means to make major modifications to their properties to improve their thermal efficiency. Even though there are a number of potential low cost modifications residents could make to their home to weather seal it, they are unlikely to be granted

permission by the Department of Housing. For example, residents at the Floyd Lodge in Williamstown, tenants were forced to remove shade cloth they installed over windows to stop the sun shining in and heating the unit.

While the Department of Housing does not provide air conditioning in public housing (except in the case of medical need due to a heat sensitive disease), tenants are permitted to install air-conditioning at their own cost. However, for many residents this is beyond their financial capacity, and in high rise estates having a 'core hole' installed to permit the unit's operation has been known to take a long period of time to occur. Further, the cost of running an air-conditioner, particularly in home with very poor thermal efficiency would be unaffordable for many households.

In recognition of the importance of air-conditioned spaces for health outcome on days of extreme heat, the Department of Human Services, working in conjunction with the Department of Health, has designated approximately ninety public housing community facilities at public housing complexes across Victoria as 'Cooler Places', operating as drop in centres on declared Heat Health Alert Days. These community facilities are air-conditioned, and are open to all tenants and residents seeking relief from extreme temperatures. This is an important initiative, however given there are only 90, and there are some 65,000 public housing residences with some 130,000 residents, it is safe to assume that many would not have access to this service.

Community members can also go to cinemas, shopping centres, libraries, and family homes. However, travelling alone to cool places on hot days can be a danger to elderly residents. The government's own heatwave advice encourages people not to go into the sun and stay at home. Many elderly public housing residents live alone and many not have family that can or will check in on their wellbeing.

Overall, public housing residents are amongst those most vulnerable to the impacts of extreme weather events, particularly to heatwaves. Investing in and preparing public housing infrastructure for climate change, not only in the case of extreme events, but also for managing growing energy costs, should be a key priority for governments across Australia.

Aside from infrastructure, the public health and emergency responses are also a factor in the risk during heatwaves that needs improvement. For example, to manage the health risks of extreme heat, and in recognition that many public housing residents live alone and may be socially isolated, the Victorian Government (2012) as part of the Heatwave Plan for Victoria, identified the 'Keeping in Touch' program as a means to warn and prepare residents. This program calls over 1000 residents on a weekly basis at an agreed time to check they are ok. They contact about 9000 residents every 6 months to see they are ok. On days that exceed the heat temperature threshold, the Department of Health issues a Heat Health Alert. On these days, all calls made and received at the call centre also provide warning of the heatwave and heatwave advice. This is a good program; however some key improvements could be made to better manage the risk of heatwaves.

Currently the program is only available to public housing residents over 75 and living alone. The Government's own research (Victorian Government, 2009) found that residents over the age of 65 are at increased health risk in hot weather. Further, it is not available to people with diseases and disabilities under the age of 75, including residents with heat sensitive diseases or disabilities. The

'Keeping in Touch' program should be extended to public and community housing residents 65 years and over, and to residents with chronic diseases and disabilities.

The Office of Housing does not provide a specific heatwave call service for vulnerable residents. Some local government, local police stations and community health organisations do provide this service, however coverage is not uniform or comprehensive across the state. Through the Keeping in Touch program, specific calls are also not made on heatwave days to check in with vulnerable residents. So if, for example, a resident normally receives a call on a Monday morning, and the hot day or a heatwave begins on a Tuesday, they will not receive a call until the following Monday to check they are ok. A heatwave specific contact list should be developed as part of the Keeping in Touch program that checks on registered residents on Heat Health Alert days. The emergency protocols for this call list would need to differ from that of the main contact database as the call is not scheduled and residents may not be home.

These improvements are just some of the reasons why further funding is also required to provide greater support systems and processes for managing extreme events, particularly heatwaves which are diffuse and difficult to manage, but also one of the most potentially deadly extreme weather events in the short term.

Private rental housing

Existing housing stock, particularly rental properties, can also be of low quality and many need significant improvement to adequately prepare for more extreme weather events. The Victorian Government (2010) estimated existing housing stock in Victoria on average to have 1 to 2 energy star rating. The energy rating of homes is important, as it provides an indication of the home's ability to moderate extremes in temperature, such as heat waves and cool snaps, and also provides an indication of the weather sealing, which may also be important in extreme storms.

Private rental properties are of particular concern for a number of reasons. Firstly, the quality of private rental housing can by poor, increasing the exposure of residents to extreme weather events. Research by The Victorian Council of Social Services (VCOSS) (2010) found that while many rental properties meet basic living standards, others were uninhabitable. They found 10% of properties surveyed lacked heating, 19% had visible and extensive mould, 10% had holes in the ceiling, walls or floor, and 33% did not have an electrical safety switch. These poor quality dwellings leave residents at a high risk of suffering the negative impacts of storms, cold snaps and heatwaves as the weather sealing is of such poor quality and electrical safety in inadequate. It is not only the risks in emergency events, but the ongoing cost burden of high electricity bills associated with keeping a home warm in winter and cool in summer that can cause additional stress and hardship.

Secondly, 70% of renters are on a low income. Low income households are more vulnerable to extreme weather events as they have less capacity, financially and through access to other resources, to adapt their environment to the changing climate. Even if households can afford to make some changes, as a renter they may not be given permission, or may be fearful to ask permission due to insecure tenure arrangements. This makes the adaptive capacity of rental tenants relatively low. So overall these residents can be considered particularly vulnerable to the impacts of climate change.

Mandatory minimum energy, health and safety standards for rental housing, as recommended in the VCOSS (2009) *A Future Focussed Housing Standard* report is the first step in ensuring our housing infrastructure has basic quality controls and begins to prepare our housing stock for a changing climate.

Effectiveness of the division of responsibilities between different levels of government to manage extreme weather events

In regards to heatwaves, much of the responsibility for managing heatwaves is delegated to Local Governments; however there is no ongoing funding to maintain capacity to respond. Following the 2009 heatwaves, which resulted in the loss of many lives, the Victorian Government funded local government to develop heatwave plans. They also provided guidelines for these plans and some support. However in recent years, funding to implement these plans and for staff time to coordinate these responses have not been forthcoming. This may jeopardise the ability of some council to carry out effective responses. A review of the adequacy of heatwave plans and the capacity of councils to carry out these plans is needed on a state-wide level and any shortfalls addressed to ensure local governments are adequately prepared to support their communities, particularly those who are most vulnerable including those receiving Home and Community Care services.

In respect to adaptation planning, while there are some local governments taking a lead, many have not assessed risks and adaptive requirements for different locations, local infrastructure, community services, and council operations within the context of a changing climate, leaving them unprepared for the growing risks. Adaptation planning needs to be undertaken across all councils, however, adaptation planning and implementation including risk management, education and improvements to key infrastructure, as well as growing energy costs will place an increasing financial burden on these governments, particularly small municipalities. This will also need to be addressed.

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