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4th May 2020

The Royal Commission into National Natural Disaster
Arrangements

Submission to the Royal Commission into National Natural Disaster Arrangements by the Australian National University

Dear Commissioners,

Please find enclosed a submission from the Australian National University (ANU) to the Royal Commission into National Natural Disaster Arrangements.

This submission has been coordinated by the ANU Climate Change Institute and includes authored contributions from ANU scholars across disciplines and Colleges, including from the Fenner School of Environment and Society, the College of Law and the College of Health and Medicine. We address three of the terms of reference.

We would welcome the opportunity to meet with Commissioners to discuss our submission further.

Yours sincerely,

Professor Mark Howden,
Director, ANU Climate Change Institute

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Roles and responsibilities of governments – a legal perspective

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Key messages:

- *Fire and emergency management should be seen as a whole-of-government and cross-sectoral issue*
- *Fire and emergency management needs to be mainstreamed into government thinking but should not be the dominant interest in all sectors*

Emergency management is traditionally seen as the responsibility of the emergency services, such as fire brigades and state emergency services. Vulnerability to fires, and the ability to protect life, property and other assets, is, however, largely defined by activities and policy settings in other sectors. This interplay of policy means that fire and emergency management should be seen as a whole-of-government and cross-sectoral issue. The community expects that different parts of government, along with non-government actors, will operate in a coordinated manner.[1]

An integrated policy approach to hazard or emergency management would require all policy sectors, when formulating policy to consider the impact their policy choice may have on the ability of a community to prevent, prepare for, respond to or recover from a natural hazard event.

There is a distinction between the extent and strength of policy mainstreaming. The extent of emergency management policy integration refers to the width or range of sectors that consider emergency management imperatives, whereas the strength of policy refers to the 'relative priority given to … [emergency management] policy integration in the policymaking system, and the energy with which it is pursued.'[2]

Laws that have various policy imperatives can impact upon a community's ability to prevent, prepare for, respond to and recover from a natural hazard event. Examples of how laws may fit within the PPRR spectrum are shown below:

Prevention	Prepare
Planning law	Planning law
Environment protection	Insurance
	Hazard Mitigation funding
Response	**Recovery**
Emergency management legislation	Post event enquiries – coroners, Royal
Tort (civil liability)	Commissions.
Legal position of volunteers	Civil liability litigation

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[1]   Michael Eburn and Bronwyn Jackman 'Mainstreaming fire and emergency management into law' (2011) 28(2) *Environmental and Planning Law Journal* 59-76.

[2]   Andrews Ross and Stephen Dovers, 'Making the Harder Yards: Environmental Policy Integration in Australia' (2008) 67 (3) *The Australian Journal of Public Administration* 245.

That table begins to identify the range of agencies that have roles and responsibilities in relation to bushfire planning, mitigation, response, and recovery and the spread of responsibilities across the levels of government and demonstrate that all areas of government; the legislature, the judiciary and the executive government at Commonwealth, state and local level can impact upon fire vulnerability.

Under the Australian Constitution the **Commonwealth government** has the power to make laws with respect to insurance, external affairs (that is relationships with other countries including obligations created by treaty), the waters beyond state limits etc. This means the Commonwealth can make laws to govern environmental management in areas of national environmental significance.[3] The Commonwealth funds states by allocation of tax revenue and funds emergency planning and response. Apart however from these specific areas, decisions about taxation, corporate responsibility, the location of Commonwealth assets, the operation of the Australian Defence Force, law reform in areas of civil liability and the liability of the Crown, funding social security etc. can all impact upon vulnerability. Giving tax deductions to install sprinklers, better funding social security so those on welfare could afford insurance premiums, limiting the ability of the Defence force to conduct live fire training would all have impact on vulnerability to bushfire but may impact on other policy objectives.

State governments also make decisions that may not seem directly relevant to vulnerability but do have an impact. The decision of how to allocate budgets between fire and emergency services and other demands on states; land use planning decisions could be made to reduce exposure but that will face objection from private landowners. Therefore, laws about private property and fundamental freedoms may be decisions by departments that do not see any themselves as being involved in fire risk mitigation.

Local governments in turn are charged with planning for local land use but local land planning decisions must be consistent with regional and state plans. Local governments are the creation of state governments and are bound to implement state policies that may encourage fire and other hazard prevention policies but also encourage growth and development to ensure housing for and economic viability of communities.

Where there are disputes about decisions to limit action in the name of fire or hazard protection then those may be challenged in courts and courts and the common law have their own principles. Applying those may restrict governments, or an individual's, right to act but depending on the issue those decisions may increase or decrease risk.

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[3]   See *Environment and Biodiversity Conservation Act 1999* (Cth)

Fire and emergency management needs to be mainstreamed into government thinking but that does not mean it either can, or should, be the dominant interest. If fire management was too strongly integrated across policy sectors, that is if it was the dominant or primary concern of all government sectors, considerations such as amenity of the environment and issues of cultural, ecological or environmental significance could be ignored. That could, however, create an environment that was neither attractive nor sustainable. It would be imprudent to require that fire management be the dominant or only concern in land use or environmental planning. It would be impossible and inappropriate to have fire protection as the single, overriding issue to be considered at the cost of all other important community considerations, but that does not mean that it should not be a factor to be considered.

Responding to the hazards of bushfire smoke - a health perspective

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Key messages:

- ***All Australian jurisdictions should disseminate air quality data (actual hourly particulate matter (PM2.5) data)***
- ***More investment is needed in air quality monitoring, forecasting and research on public health messaging, and exposure reduction measures***
- ***An independent expert committee on air pollution and health is needed to guide decision-making nationally***

The unprecedented magnitude and duration of bushfires over summer 2019 / 2020 lead to an extraordinary challenge with hazardous air pollution across most of eastern Australia. The following 3 recommendations aim to minimize future health risks associated with bushfire smoke.

1. Public access to local, user-friendly air quality information and reliable smoke forecasts is essential for managing personal exposure as well as clinical deterioration in sensitive individuals exposed to bushfire smoke. We strongly recommend that all Australian jurisdictions present actual hourly particulate matter (PM2.5) data. Real time, hourly averaged PM2.5 concentrations are the most appropriate metric to guide personal behaviour that minimises exposure to bushfire smoke.

2. Consistency of air quality information and related public health advice across jurisdictions is essential for protecting populations from bushfire smoke exposure. Health messages related to air quality need to be evidence-informed and specific for at-risk groups and the general public. More government investment is needed in air quality monitoring, forecasting and research on public health messaging, and exposure reduction measures to protect Australians from bushfire smoke.

3. We call for an independent national expert committee on air pollution and health protection to be established to support environmental health decision making in Australia. This new expert committee should have a clear mandate and resources to develop evidence-based, accurate, practical and consistent advice on health protection against bushfire smoke, and air pollution more broadly, across jurisdictions.[4]

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[4] Reference: Vardoulakis S, Jalaludin B, Morgan GG, Hanigan IC, Johnston FH. 2020. Bushfire smoke: urgent need for a national health protection strategy. Medical Journal of Australia. DOI:10.5694/mja2.50511

Primary health care and Indigenous health care response

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Key messages:

- ***Primary health care and particularly General Practice should be integrated into disaster management plans***
- ***Mainstream emergency relief services need to consider the needs of Aboriginal and Torres Strait Islander people***

Primary Health Care networks and providers were at the centre of the medical response to the bushfires across Australia. In the lead up to the summer and fire season there was limited formal preparation through the primary health care networks. The lack of integration of primary health care and particularly General Practice into disaster management plans is a major impediment to delivering safe care (note that General Practice is referred to once in the NSW Emergency Management Plan). General Practice was frequently required to fill the gaps when the overarching plan did not work (e.g. in communities cut off by fire where the planned services had not been able to reach the community prior to areas being cut off).

For Indigenous health services the experience of Katungul Health service (south coast NSW) is illustrative. An initial engagement exercise (prior to a planned health needs assessment which has since been delayed due to COVID-19) found that mainstream emergency relief services (including those based at the Disaster Recovery Centre) did not consider the needs of Aboriginal and Torres Strait Islander people. For example, they did not ask about Aboriginal identification at relief centres, forms and systems were difficult to navigate for some Aboriginal people who did not have good literacy skills, and many agencies involved in disaster response did not have protocols for assisting Aboriginal people, while only a few had cultural awareness training in place.

Reducing the impact of natural disasters and adapting to them by mitigating climate change

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Key messages:

- *Action includes addressing the causal factors that are increasing the frequency, intensity and duration of natural disasters i.e. climate change*
- *Reducing the impacts of climate change requires greenhouse gas reduction, starting with strong interim targets for 2030*
- *Adaptation requires re-thinking the goals of fire management, fire planning, fire-fighting technologies and resourcing to meet the new risks.*

The best and most recent scientific analysis shows that human-induced climate change is very likely to be making disasters such as the recent bushfires more frequent and more intense: On-the-ground observations and climate models show that the Fire Weather Index (FWI) has been increasing with time. Specifically, it has been computed[5] that the extreme values of FWI experienced in SE Australia in 2019/20 have increased by at least 30% since 1990 due to human-induced climate change. Projected into the future, this work shows that 2019/20 FWI levels will be at least four times more likely with a 2°C temperature rise, the upper end of the Paris Agreement targets.

Dangerous fire weather conditions in south-east Australia are well-known to be driven by: 1) drought conditions, 2) high temperatures, particularly daytime temperatures 3) low relative humidity and 4) strong winds. The 2019 drought was one of the most severe (if not the most severe) in the historical record. Australia had the lowest rainfall on record and the highest temperature on record (e.g. the average maximum temperature was 2.09°C above the 1961-1990 baseline). The increases in temperature have been definitely attributed to climate change[6] whereas reductions in rainfall are more complex. In SW and SE Australia there is a clear fingerprint of climate change in the long-term trends to lower rainfall[7], but the effect is less clear in other regions. The 2019 drought was in particular influenced by the strong positive Indian Ocean Dipole which may continue to intensify in a warming world[8].

Drought is particularly important for fire danger in SE Australia as it causes leaf drop, increasing fuel load and because it reduces fuel moisture, increasing ease of ignition. In addition, the relative humidity was extremely low due to long term trends associated with climate change[9] and the drought conditions during 2019. Lastly, many particularly intense

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[5] Oldenborgh et al. (2020)
[6] Kokic et al. (2014)
[7] Impact of lower inflows on state shares under the Murray–Darling Basin Agreement (2020)
[8] Abram et al. (2020)
[9] Yuan et al. (2019)

fires in the south-east of Australia are associated with strong winds drawn from the hot continental interior that are channelled ahead of powerful cold fronts. These appear to be getting more frequent and stronger with climate change and are projected to increase by up to a factor of four by the end of this century[10]. These and other connections of fire risk with climate change mean that reduction of disaster risk needs to include mitigation of climate change.

Australia is a significant part of the world economy and a major fossil fuel exporter, and to date has arguably hindered rather than enhanced international consensus processes for climate change mitigation. One of the prices we pay for this position is contributing to the increasing scale and ferocity of climate-driven disasters. If we want to protect the Australian way of life for our children and their children, we must act to reduce our contribution to greenhouse gas emissions as a matter of urgency and demonstrate leadership and support for other nations to do likewise. The starting point for this action would be to establish clear and structured plans for greenhouse gas reduction aligned with the Paris Agreement goals, starting with strong interim emission-reduction targets for 2030. Importantly, many robust analyses have shown that rather than causing economic and social damage, proactive and balanced approaches to addressing climate change will actually lead to a stronger economy without the huge and growing costs in terms of lives, livelihoods, quality of life and the environment that have become all too evident in the 2019-2020 bushfire period.

The recent bushfire crisis and the current COVID-19 crisis has demonstrated that Australia can act radically and effectively to meet short term crises. However, if we want to avoid such actions becoming a semi-annual event – impacting heavily on the Australian way of life and the Australian environment – we must also address the issue of reducing greenhouse emissions with equal urgency.

Despite the clear evidence that mitigation of greenhouse gas emissions is urgent, our climate has already changed substantially enough that adaptation to these new conditions is needed. The evidence is also clear that the climate changes will very likely continue to result in weather patterns that increasingly deviate from historical norms for some time. This means that we have to re-think the goals of fire management, fire planning and fire-fighting technologies and resourcing. This could include a diversity of hazard reduction approaches including mechanical as well as fire-based approaches. Hazard reduction objectives should be integrated with asset protection and biodiversity / forest age class and structure

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[10] Hasson et al. (2009)

requirements. Such actions would help us stay ahead of the changes to fire danger rather than continually being behind the eight-ball.

Funding arrangements for disaster mitigation

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Key messages:

- *More Federal funding for disaster mitigation would reduce the spending required for relief and recovery*
- *The National Partnership Agreement Disaster on Risk Reduction improves on previous mechanisms through inbuilt review processes but does not increase overall funding*

Australia's capacity to mitigate disasters is constrained by the level of funding dedicated for this purpose. There remains a large discrepancy in the total funding provided by the Federal Government for disaster mitigation compared with what it provides for relief and recovery. This is a long-standing situation that has been raised in a number of previous disaster management reviews and commissions of inquiry. For example, as early as 2002 the Council of Australian Governments recommended a substantial increase in funding for disaster mitigation[11], as did the Productivity Commission in 2014[12]. This remains to be addressed.

The previous major national funding mechanism for disaster mitigation was the National Partnership Agreement on Natural Disaster Resilience which provided total annual matched funding to the States and Territories of approximately $26 million per year. In addition, approximately $4 million was provided annually to the jurisdictions for projects of national significance. This agreement was replaced by the National Partnership Agreement (NPA) on Disaster Risk Reduction in March 2020. This mechanism is designed to support the implementation of disaster risk reduction measures under the National Risk Reduction Framework, which aligns with the international Sendai Framework for Disaster Risk Reduction 2015-2030. The NPA Disaster Risk Reduction improves on its predecessor because of its direct line of sight to Australia's implementation of the Sendai goals; alignment with state and territory risk assessments; provision of incentive for states and territories to obtain value for money on mitigation spending; and perhaps, most importantly because it requires review and evaluation of overall and specific project outcomes. However, the quantum of federal funding to 2024 has not increased. Considering the recent catastrophic bushfire season and the likelihood of the continuation of a trend toward an increasing incidence of extreme weather due to climate change, these funding levels urgently need to be increased.

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[11] Commonwealth of Australia, 2004. Natural Disasters in Australia: Reforming mitigation, relief and recovery arrangements, A report to the Council of Australian Governments by a high level officials' group, August 2002.
[12] Productivity Commission, 2014. Natural Disaster Funding Arrangements, Inquiry Report no. 74, Canberra.

A national strategy for climate change and health

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Key messages:

- ***A national framework for the health issues arising from climate change is needed***

Climate change poses the most significant threat to the long-term health and wellbeing of Australians. This tragic summer of 2019 / 2020 delivered an education in the relationship between climate change and health, with extraordinary heat and the devastating bushfire leading to a bushfire smoke crisis the likes of which have never been experienced internationally. We know that in addition to the lives lost directly from bushfires, many hundreds of Australians lost their lives due to bushfire smoke exposure. Many more will have died as a consequence of higher temperatures, trauma and social upheaval.

There is much to learn from this summer to protect, preserve and improve the health of Australians. Better preparation for such a summer with planning for heat, fire risk reduction and for potential air pollution would have reduced morbidity and mortality. Better coordination between state and federal government with emergency response information such as fire apps and air pollution information tools would have been helpful. The need for this cooperation could have been predicted much earlier. Finally, the health benefits of environmental protection, including action on climate change, cannot be understated.

There has been much work done in Australia on climate change and health, and yet there is no national strategy or framework. Within the Department of Health, the responsibility for the health issues that arise from climate change falls as one of several responsibilities of the Australian Health Protection Principal Committee (AHPPC). The national framework provided is around environmental impacts and individual events, rather than the comprehensive national framework of the kind suggested by the Climate and Health Alliance[13]. A national framework would recognise the interdependent issues and risks that are posed by climate change and facilitate appropriate discussion across different levels of government. A national climate change framework could change the bushfire response from a reactive, emergency model, to one of proactive, preventative intervention improving outcomes for both people and the environment.

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[13] CAHA Framework for the National Strategy on Climate Health and Well-being for Australia https://d3n8a8pro7vhmx.cloudfront.net/caha/pages/40/attachments/original/1498008324/CAHA_Framework_for_a_National_Strategy_on_Climate_Health_and_Well-being_v05_SCREEN_%28Full_Report%29.pdf?1498008324

The Federal Government response to previous Royal Commissions and inquiries: gaps and opportunities

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Key messages:

- ***Very few recommendations for Federal Government have come out of post-disaster inquiries (<1% of total)***
- ***There is little analysis available regarding the Federal Government response to these recommendations, although this is possible in theory***
- ***Cross sector learning from disasters requires the establishment of and commitment to a collaborative entity with this focus***

Identifying and understanding the Federal Government's response to recommendations from previous bushfire Royal Commissions and inquiries has, until recently, been virtually impossible. Once Royal Commissions have reported there is no obligation upon agencies that are the subject of recommendations to report on their response to the recommendations. Agencies may respond or they may not. Governments and agencies may implement measures that are consistent with the recommendations but that action may, nor may not, be a response to the inquiry. The 2009 Victoria Bushfires Royal Commission was unique in that the Commissioners recommended (recommendation 66) that 'The State appoint an independent monitor or the Victorian Auditor-General to assess progress with implementing the Commission's recommendations and report to the Parliament and the people of Victoria by 31 July 2012'. During the operations of the Implementation Monitor it was possible to obtain some indication of how governments and others had responded to previous inquiries. That sort of information is not available, in a single place, with respect to other inquiries.

The possibility of analysis of the recommendations, and potentially the response, to previous post-event inquiries has been significantly enhanced by the recent open access data base of all inquiries post-1886[14] , of which over one third deal with bushfires and nearly another third all-hazard (thus including bushfire). The data base includes searchable access to the >1100 recommendations of 55 major inquiries between 2009-17. Only three of 55 major inquiries were federal and all three were parliamentary; the rest were state/territory. The vast bulk of recommendations concern state and territory agencies, mostly emergency service organisations, who in various ways monitor and report against these recommendations. Regarding the response of the Australian Government, the data are thin and it is not clear that response has been

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[14] https://www.bnhcrc.com.au/utilisation/ddr

monitored: 9 of 55 inquiries made a total of 23 recommendations concerning the role of the Australian Government (0.2% of all recommendations). The response to or implementation of these recommendations by the Australian Government could be tracked via responsible federal agencies should the Commonwealth wish to do so. Initial analysis has established[15] the presence of significant common themes across inquiries and the value of utilising the large body of analysis and recommendations they have made. Note that while common themes do recur across inquiries, there are areas surprisingly unattended to, including personal and household responsibility, the role of the private sector, volunteers and recovery.

With respect to other issues identified in the Terms of Reference and call for submissions, the nature of and response to recommendations can be similarly pursued. Some issues have been explored through research projects, for example land use planning[16]. There is considerable scope for more such analysis.

The larger issue in the long term is whether Australia has the desire and capacity to continuously learn from events and disasters across space and time, and across jurisdictions, NGOs, communities and business sectors. The value of cross-agency, -government and -sector learning is inarguable, however it requires structures, processes and resources for nationally coordinated, locally relevant, sustained and adequately resourced policy and operational learning. The existing lead organisations of AFAC, AIDR and the BNHCRC[17] fulfil the role to an extent, and collaborate, however this is not their primary role, resources are constrained, and the 2021 cessation of the BNHCRC signals a diminishing of capacity (including of hosting and maintaining the inquiries data base). Australian governments, along with key research and response partners, should consider the need for an enduring entity focused on disaster policy and practice learning and continual improvement capacity, akin to but broader in scope than the modest and specific US Wildlands Fire Lessons Learned Center[18]. The response to the 2019-20 bushfires may be top of mind currently, however the need for such continuous improvement will continue and, in all likelihood, become more acute.

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[15] https://knowledge.aidr.org.au/media/5505/ajem-33-2-16.pdf
[16] https://www.bnhcrc.com.au/publications/biblio/bnh-6665
[17] **AFAC**: Australasian Fire and Emergency Service Authorities Council
 AIDR: The Australian Institute for Disaster Resilience
 BNHCRC: Bushfires & Natural Hazards Cooperative Research Centre
[18] https://www.wildfirelessons.net/home