NSW Bushfire Inquiry

New England Greens Armidale Tamworth (NEGAT) is located in northern New South Wales, an area which experienced catastrophic bushfires in November 2019 during which time the Wytaliba community was devastated by the loss of two members[i] and thousands. Armidale and surrounding towns were blanketed for weeks in hazardous smoke. The New England National Park, a significant remnant of Gondwana Rainforest suffered extensive damage[ii], and elicited international expressions of concern.[iii] NEGAT is grateful for the opportunity to contribute to this vital conversation.

Vicious Cycle: Global Warming Increases the frequency of Bushfires, which Increase Global Warming

Guido van der Werf, who helps maintain the Global Fire Emissions Database, said the 2019-20 fires in New South Wales and Victoria emitted around 400 million tons of CO2-eq, "*pushing country-level estimates for all of 2019 to a new record in the satellite era*" of about 900 million tons. The UK Met Office the Australian fires could account for 1 to 2 percent of the acceleration in the growth of the global concentration of carbon dioxide in the planet's atmosphere in 2020 - https://www.washingtonpost.com/weather/2020/01/24/australia-bush-fires-have-nearly-doubled-countrys-annual-greenhouse-gas-emissions/

Health Costs of Bushfire Smoke – 417 premature deaths, Eastern Australia, 2019-20
In March 2020, the Medical Journal of Australia reported that exposure to smoke from the unprecedented bushfires in Eastern Australia caused an estimated 417 premature deaths, including 219 in NSW. The smoke also caused an estimated 3151 hospital admissions respectively for cardiovascular and respiratory ailments and 1305 visits to hospital emergency departments for asthma: https://onlinelibrary.wiley.com/doi/full/10.5694/mja2.50545
The costs of all the above health problems, as well as other direct and indirect costs could amount to more than $100 billion: https://theconversation.com/with-costs-approaching-100-billion-the-fires-are-australias-costliest-natural-disaster-129433

Mitigate the Health Costs described above by improving pollution monitoring & encourage indoor HEPA filtration. Low-cost pollution monitors such at the 'Purple Air' network, installed in Armidale, NSW, can provide invaluable real-time access to such data would also alert residents, especially susceptible groups, to unsafe levels of pollution. Calibration equations have been developed to show that properly-calibrated Purple Air sensors provide almost identical readings of wood smoke pollution as the official government equipment, and will greatly benefit residents of small towns and villages that have no official monitoring.

In March 2020, the Medical Journal of Australia published an article: 'Bushfire smoke: urgent need for a national health protection strategy' - https://www.mja.com.au/journal/2020/212/8/bushfire-smoke-urgent-need-national-health-protection-strategy The article noted that improved access to real-time air quality data was one strategy to help minimize the impact of air pollution. It would allow people close windows and doors and switch on high efficiency particle air (HEPA) filters to prevent indoor pollution from reaching dangerous levels. Even for healthy volunteers exposed to relatively low levels of woodsmoke pollution (10 ug/m^3 for 1 week), Canadian research showed that use of HEPA

filters was associated with improved endothelial function (a 9.4% increase in reactive hyperemia index) and decreased inflammation [1]. Indeed, a review recommended that portable air cleaners should be at the forefront of the public health response to landscape fire smoke [2].

Reduce the risk by reducing Greenhouse Emissions
The Bushfire Inquiry should therefore recommend increased efforts to reduce greenhouse emissions and demonstrate to the rest of the world that we should all want to reduce the risk of major economic damage and threats to our future from global warming, including droughts and bushfires.

Reduce the risk by making all developments bushfire resistant
As well as doing what we can to make all new developments bushfire resistant, we should evaluate need to evaluate the potential of new technology to spot bushfires and have equipment on standby to put them out before they get out of control.

Reduce the risk by evaluate the potential of new technology to spot bushfires and have equipment on standby to put them out before they get out of control.
Satellites can routinely detect fires the size of an urban house site (32 metres x 32 metres). In good conditions, fires a tenth of this size can be detected. A feasibility study should therefore be conducted to determine the potential savings (including savings in greenhouse emissions and health costs of exposure to bushfire smoke) from using satellite and other technology to detect fires and extinguish them before they get out of control.

Reduce the risk by providing adequate resources for fire-fighting and prevention

1) The nation's aerial firefighting centre called four years ago for a "national large air-tanker" fleet to confront a growing bushfire threat but was turned down in a federal government ruling that the task was one for the states. The NSW Government should ensure that all Eastern States have access to a "national large air-tanker" fleet, either one they set up themselves, or cooperatively with other states or the federal government.
https://www.smh.com.au/politics/federal/government-rejected-major-air-tanker-expansion-20200103-p53onl.html

2) In extreme weather events, there will be little or no benefit from increasing hazard-reduction burning in extreme weather events, so other strategies should take priority. One of the worst affected areas in northern NSW was Wytaliba. Residents there said: "*We had a bushfire two months ago that burned most of our property. It didn't matter. It burned again. this is climate change*" https://www.armidaleexpress.com.au/story/6494023/opinion-we-did-burnoffs-badja-sparks-hits-back/
Hazard reduction burning had little to no effect in slowing extreme bushfires.
https://www.theguardian.com/environment/2020/feb/06/hazard-reduction-burning-had-little-to-no-effect-in-slowing-this-summers-bushfires?
3) Post-bushfire logging makes a bad situation even worse, but the industry is ignoring the science, says David Lindenmayer, Professor at the Fenner School of Environment and Society, ANU College of Science. https://www.abc.net.au/news/2020-01-29/logging-bushfire-affected-areas-australia-increases-fire-risk/11903662

Additional Information
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2.   Barn, P.K., et al., *Portable air cleaners should be at the forefront of the public health response to landscape fire smoke.* Environmental Health, 2016. **15**(1): p. 116.

[i] 'NSW bushfires: Inside the community that's now a ghost town,' Paige Cockburn , ABC News 14 November 2019 https://www.abc.net.au/news/2019-11-14/nsw-bushfires-inside-small-town-wiped-out-wytaliba/11702106

[ii] 'Revealed: Monumental NSW Bushfires…', Guardian, Lisa Cox, 3 December, 2019 https://www.theguardian.com/environment/2019/dec/03/revealed-monumental-nsw-bushfires-have-burnt-20-of-blue-mountains-world-heritage-area

[iii] 'UNESCO expresses concern over bushfire damage to Australia's Gondwana Rainforests', Guardian, Adam Morton 28 November, 2019 https://www.theguardian.com/australia-news/2019/nov/28/unesco-expresses-concern-over-bushfire-damage-to-australias-gondwana-era-rainforests