

**Submission  
No 192**

## **INQUIRY INTO CLIMATE RESILIENCE**

**Organisation:** Friends of the Earth Melbourne

**Date Received:** 27 June 2024



# Friends of the Earth Melbourne

MOBILISE - RESIST - TRANSFORM

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Legislative Council Environment and Planning Committee  
Parliament House  
Spring Street  
EAST MELBOURNE VIC 3002

RE: 2024 Parliamentary Inquiry into Climate Resilience

27 June 2024

To the Legislative Council Environment and Planning Committee,

Friends of the Earth Melbourne welcomes the opportunity to provide a submission for the Parliamentary Inquiry into Climate Resilience, focusing on the main risks facing Victoria's built environment and infrastructure from climate change and the impact these will have on the people of Victoria.

Friends of the Earth Melbourne (FoEM) is a member-based, not-for-profit organisation that has existed for over 50 years, and is part of FoE Australia and FoE International—the world's largest grassroots environmental network. Our work embodies the belief that social and environmental issues cannot be separated from each other. With this philosophy, FoE campaigns for climate solutions that have both social and environmental justice at their core. We seek to work toward a sustainable and equitable future, and to operate in a way that empowers communities.

Our campaign collectives currently work across various issues, including climate action and climate resilience, renewable energy, nuclear energy, fossil gas and sustainable transport. These issues will be addressed in this submission.

The bulk of this submission has been collated by Friends of the Earth Melbourne's Act On Climate Collective. It is followed by some summary thoughts on public transport infrastructure from the Sustainable Cities Collective, gas infrastructure from the No More Gas Collective and proposed nuclear power stations from the Nuclear Free Collective.

## **About Act on Climate**

Act on Climate (AoC) is the climate justice collective of Friends of the Earth Melbourne. It is a grassroots group of activists organising for environmental and social justice with a state-based climate focus. Current campaigns run by the collective are supporting climate-impacted communities towards climate adaptation solutions in Victoria.

In this submission, we will highlight and discuss our work with grassroots communities, which has informed our understanding of the experiences, concerns, and ideas of vulnerable and

working communities. Through this work we have gained knowledge on how best to develop community preparedness and promote positive, effective, and just adaptation actions in the context of increasing future climate disaster events.

We believe that the Inquiry into Climate Resilience by the Legislative Council of Victoria, with its focus on risks to the built environment and infrastructure, and on mitigating these risks, is an opportunity for the Victorian Government to:

- acknowledge and widely communicate the climate impact risks to the built environment and infrastructure of Victorian communities, as well as the risk to human safety, livelihood, mental health, and lives, and that this will not be equally distributed,
- commit to and put in place practices for improved, meaningful, and ongoing consultation with Victorian communities to hear from them their concerns, ideas, and requirements, and share with them how the Government is and will assist them due to the localised nature of these risks,
- adequately and continuously support strong climate adaptation according to individual communities' needs, providing communities with the knowledge to understand the risks facing them and who will be most impacted, affording communities the self-determination to decide how they will adapt, and equipping them with the resources necessary to implement their chosen adaptation solutions,
- ensure adaptation is just and Indigenous-led by taking into account and addressing multiple and intersecting injustices, enhancing the adaptive capacities of people, places and ecosystems in all their diversities, and learning from and integrating practices and knowledges of Indigenous Peoples, and
- make the case for the polluter pays principle, by coming to the conclusion that a large investment into climate resilience and adaptation is necessary and that this money should come from those knowingly responsible for the climate crisis and the current imperative to adapt, namely the fossil fuel industry.

Overall, this Inquiry is an opportunity to ensure Victorian communities are as protected as possible from destruction by large climate disasters as well as more subtle, slowly intensifying impacts and to keep Victorians vulnerable to present and incoming climate impacts safe from harm.

It is also an opportunity to listen to the stories of climate disasters and impacts coming out of communities. These stories demonstrate and amplify the true impacts of climate change. Having the voices of lived experience heard will allow people to connect more deeply with the reality of the crisis. Currently, there is a lack of necessary conversation about climate preparedness. The public are not exposed to much understanding of climate adaptation and now is an opportunity for the State Government to work with grassroots community organisations to educate community networks about what climate resilience is. We need to be ready before climate disasters hit and impacts exacerbate - this will both reduce the destruction and harm caused, as well as the monetary cost.

AoC recognises the necessary limitations in this Committee's Terms of Reference. Ideally, this scope would be broadened from a risk-facing to a risk-abating approach, working with communities to take risk mitigation action, including actions to reduce GHG emissions and to respond to the existing reality of climate disasters. It is hoped that future inquiries into other aspects of climate resilience place much-needed attention on the risks to people's health, both physical and mental, and to wildlife and the natural environment.

## **Background: Grassroots engagement informing AoC's recommendations for responding to climate impacts in Victoria**

Since 2017, AoC has engaged with individuals and communities across Victoria through our work on the climate crisis. We have connections with many regional Victorian groups working in the climate space.

Some of our initiatives have included:

- the [People's Climate Strategy for Victoria](#)<sup>1</sup>, which gathered contributions from over 1 000 Victorians on impacts and opportunities in their area the state, and the climate solutions they want to see funded and rolled out by the State Government, and
- the [Climate Impacts at Work survey](#)<sup>2</sup>, which engaged with workers and their unions to get a detailed picture of how the warming climate is affecting workers in different industries.

Undertaken in 2020-21, the People's Climate Strategy for Victoria was created by surveying as many diverse Victorian communities around the state as possible - from the union movement, to the disability community, to First Nations people. Through surveys, forums, roundtables, social media actions and a dot-democracy voting action, we shaped the Strategy to report on and directly deal with the climate impacts that people are observing across Victoria's regions. The resulting Strategy is based on community members' ideas for adaptation to and mitigation of climate change in ways that will create jobs and advance social justice for all. It was made available to the state's MPs.

Undertaken in 2021-22, a Climate Impacts at Work survey was undertaken by AoC in collaboration with RMIT and six Victorian unions. This produced 'world-leading' research on climate impacts on workers. It found that climate impacts had already affected the physical health of 75% of workers and the mental health of 48% of workers. The report was presented to Labor MPs, including the Climate Minister, Lily D'Ambrosio.

In 2023, AoC went on a [West Coast Climate Impacts Listening Tour](#)<sup>3</sup>. We visited and held events in Torquay, Apollo Bay, Warrnambool and Portland, on Wadawurrung, Gadubanud and Gunditjmara Country, meeting up with local groups active in the area, as well as interested community members from all walks of life. We heard about and witnessed the coastal climate impacts these places are already experiencing, and the solutions that locals would like to see. Concerns about the lack of government consultation and communication around adaptation planning were shared. It was also made clear to us that these communities want investment in long-term resilience to climate impacts, rather than the government only making resources available after climate disasters hit an area.

Through this historic work, AoC has gathered community information on climate impacts, and worked with community members to sound the alarm and secure funding for responses, for

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[https://assets.nationbuilder.com/friendsofearthmelbourne/pages/6194/attachments/original/1631661326/A\\_People's\\_Climate\\_Strategy\\_for\\_Victoria\\_2021.pdf](https://assets.nationbuilder.com/friendsofearthmelbourne/pages/6194/attachments/original/1631661326/A_People's_Climate_Strategy_for_Victoria_2021.pdf)

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[https://assets.nationbuilder.com/friendsofearthmelbourne/pages/6738/attachments/original/1663108929/%28final%29\\_Climate\\_Impacts\\_at\\_Work.pdf](https://assets.nationbuilder.com/friendsofearthmelbourne/pages/6738/attachments/original/1663108929/%28final%29_Climate_Impacts_at_Work.pdf)

3 [https://www.melbournefoe.org.au/west\\_coast\\_roadtrip\\_report\\_back](https://www.melbournefoe.org.au/west_coast_roadtrip_report_back)

example in Inverloch. The collective has also, together with FoE, provided mutual aid to communities during climate disasters such as Black Summer.

More recently, the collective engaged in a [Climate Resilience Mapping event in Frankston](#)<sup>4</sup>. It saw highly engaged attendees develop innovative, clear, and ambitious climate adaptation ideas for Frankston. Climate resilience mapping captures how climate risk and vulnerability interact in a specific community. The activity enables the creation of a climate resilience strategy that takes into account local environmental, physiological, socioeconomic, and experiential factors.

AoC also recently visited the Collingwood Neighbourhood House to discuss climate impacts and adaptation with an audience that was largely made up of residents of the adjoining social housing. The discussion was translated for those residents who were not first language English speakers.

Through these years of work and engagement with diverse communities around the state, we have developed our knowledge of what impacts Victorians are facing, and their detailed local knowledge of how to best respond to climate impacts. In addition, we have heard how communities are experiencing the Government's response and how they perceive this response as inadequate. Insights: What we are hearing from/seeing in VIC communities

Victorian communities are currently not climate resilient and critically need support and resources to prepare for and adapt to the climate impacts threatening their lives, livelihoods, and the built environments in which these are situated.

Communities are calling for more to be done to build local disaster awareness and help communities to prepare for likely future catastrophes. They are asking for better climate change preparation and emergency planning from the Government. State assistance in particular is sorely needed to support communities to prepare for future climate change related disasters.

They are experiencing a lack of government consultation and communication around adaptation planning. Communities want community advisory groups created that can advise Government of adaptation actions needed locally.

Community members are frustrated about the Government only supporting and making funding available to communities after they have been devastated by a climate disaster. They want investment in long-term resilience to climate impacts, rather than short-term band aid solutions and in addition to recovery.

Climate impacts are already being experienced by grassroots communities throughout Victoria. In 2024, communities are battling intensifying climate impacts such as heatwaves, bushfires, and floods. Disasters are increasing in frequency, becoming more unpredictable and communities are experiencing compounding events.

AoC is concerned about the impact of extreme weather on communities and their capacity to be resilient in the face of climate change, especially when experiencing multiple climate impacts at the same time and concurrent disasters. More frequent disasters and longer climate impact

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<sup>4</sup> [https://www.melbournefoe.org.au/frankston\\_swelteringcities\\_resilience\\_mapping](https://www.melbournefoe.org.au/frankston_swelteringcities_resilience_mapping)

events are undermining the ability of individuals and their communities and the environment to cope and recover.

Vulnerability is not distributed equally across communities, geographically and socially. People who are already facing challenges based on their economic position, systemic disadvantage, or compounding circumstances will be disproportionately impacted by climate impacts. This needs to be considered in all climate adaptation plans and outcomes to ensure they are just.

People who are already facing challenges based on their economic position, systemic disadvantage, or compounding circumstances will be disproportionately impacted by climate disasters. Those in our communities who are struggling with cost of living, uncertain immigration status, linguistic isolation, discrimination based on their identity (age, race, gender, ability, sexuality), or their health, insurance, or employment status are likely to be affected first and worst.

It is vital to view vulnerability as a consequence, not a condition, to avoid victimisation. “Vulnerability is not a characteristic or condition of a group of people, it is a circumstance or consequence of the ways social groups have been historically and systemically marginalised and excluded from opportunity. Rather than being viewed as victims to be protected and saved, vulnerable communities should instead define, develop, and drive the solutions” ([APEN Mapping Resilience Report](#)<sup>5</sup>).

The climate impacts being experienced and the risks associated with them include:

### **Extreme heat and heatwaves**

Heat is the leading cause of death, of all environmental disasters. Australian heatwaves have been responsible for more human deaths than any other natural hazard, including bushfires, storms, tropical cyclones, and floods.<sup>6</sup>

People are exposed to extreme heat with no or little shade often when waiting for the bus, walking, cycling, and occupying their inadequately cooled homes.

One of the reasons why extreme heat kills more Australians than any other climate disaster is that most of our buildings are not designed or built for extreme heat in Australia, according to Dr Genevieve Cowan of Doctors for the Environment Australia.

Public spaces the community can currently go to to keep cool are not functional as heat refuges and are not available outside of office hours. This is a missed opportunity to utilise already in place infrastructure, such as air-conditioned facilities, for heat relief. A means for people to reach these spaces safely and return home safely, day or night, is not available and needs to be provided. The homeless need consideration here as well.

Heatwaves are very dangerous for vulnerable people, especially the elderly, young children, those living alone, those with particular health conditions, renters in apartments without air-conditioning, and those who can't afford air-conditioning. People working outdoors are also at increased risk during heatwaves.

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<sup>5</sup> [https://apen4ej.org/wp-content/uploads/2019/10/APEN-Mapping\\_Resilience-Report.pdf](https://apen4ej.org/wp-content/uploads/2019/10/APEN-Mapping_Resilience-Report.pdf)

<sup>6</sup> Adapt NSW, NSW Government

Those commuting via train experience disruptions to transport journeys due to the impact of heat on railway lines.

The reduction in trees state-wide and the lack of street trees in some suburbs make for higher temperatures, with many of the housing estates that are being built in the West being treeless and very heat exposed.

People are experiencing huge anxiety and concern about their pets being left alone in homes with inadequate cooling systems. Both pets and terrestrial wildlife are at risk if they are outside in exposed conditions and are unable to access water and shade.

In rural locations, it's common to experience 40-plus degree days where infrastructure is unable to cope, for example the increased use of cooling systems causing blackouts and hospitals overwhelmed with heat-related health issues struggling to support people's needs.

### **Bushfires**

More frequent heatwaves and a lack of precipitation due to climate change are causing bushfires to be less controllable and impact huge areas, destroying people's homes and livelihood, and killing horrendous numbers of wildlife. This also impacts health, from respiratory conditions to poor mental health as people try to rebuild their lives.

Bushfire impacts or risks push people towards living in caravan parks and relatives' homes because it is too dangerous for them to remain in their home. Bushfire evacuations, threats, and events are a very mentally and physically traumatic experience for children, families, pets, and wildlife.

People in smoke-affected areas are at risk of respiratory issues due to inhaling smoke and can be forced to spend whole summers indoors, as was the case in 2019/20. For those in the worst-affected areas or with health conditions, this is very dangerous. Smoke from unnecessary and incorrect burning that is meant to but does not prevent bushfires is also an issue.

The township of Loch Sport is considered to be an area of extreme fire risk. It has only single road access and tank water that is unusable when the power goes out. In addition, it is surrounded by substantial areas of national park. Loch Sport has faced bushfires in the past and are considering establishing a safe boat harbour for emergency evacuation. Whilst some fire management activities are being carried out, not enough is being done. The responsibility largely falls on the community itself; for example, during the October 2023 bushfires a pub owner opened its doors as a communal location, especially for residents who lived alone<sup>7</sup>.

Issues such as delays in communication about bushfire risk due to centralised communication systems and low firefighting capacity cause destruction and harm that could have been prevented. The Government must increase Victoria's ability to respond rapidly and effectively to fires when they start.

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<https://www.abc.net.au/news/2023-10-13/loch-sport-bushfire-community-seeks-protection-emergency-plan/102968704>

## **Floods**

In January 2024, the communities in central Victoria experienced three months worth of rain in a day<sup>8</sup>, causing major floods. During the flooding, communities in Yea were isolated, cut off from accessing the town. People in Rochester and Seymour experienced above floor level flooding or were issued emergency warnings to evacuate immediately. These are communities still recovering from the last major flooding event.

Greater short duration rain extremes associated with flash flooding are projected. For heavy rain days, total rainfall is expected to increase by around 7% per degree of warming, as a general rule. For short-duration, hourly, extreme rainfall events, observations in Australia generally show a larger than 7% increase and this is projected to continue.

Maribyrnong community members raised concerns with their council about a lack of community awareness of the fact that residents live on a flood plain, as well as a lack of preparation for flooding events prior to the devastating floods that occurred in October 2023<sup>9</sup>. Flood mapping for the Maribyrnong catchment area was so outdated that it was irrelevant when the floods occurred and resulted in “substantially dangerous” warnings for the residents who were ultimately evacuated<sup>10</sup>.

The town of Rochester suffered greatly during the floods in October 2022 where floodwaters damaged almost every building and there were many missing and injured residents<sup>11</sup>. Locals also experienced agony when watching air support flying over their town on the way to Echuca, whilst those in the smaller town of Rochester essentially fended for themselves. Severe flooding also occurred in 2011 and residents are asking for help to reduce the risk of further flooding, including the management of water levels at a nearby lake.

## **Sea level rise and coastal erosion**

The Vic Government’s Port Phillip Bay Coastal Hazard Assessment details the climate impacts threatening coastal communities. It outlines the current and future coastal hazards around the bay and the risk to homes, infrastructure, and beaches right around Port Phillip Bay from climate-induced sea-level rise and storm surges. These coastal hazards, which include coastal inundation, coastal erosion and changes in groundwater salinity and depth, are escalating due to climate change and rising sea levels.

Residents in coastal areas, where population is growing and tourism industries are strong, are already observing erosion and sea level rise. This highlights the economic and social risks to places such as Port Phillip Bay, Apollo Bay, Inverloch, Port Fairy, Elwood, Loch Sport, and the Bellarine Peninsula.

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<sup>8</sup>

<https://www.sbs.com.au/news/article/evacuation-warnings-as-victorian-town-gets-three-months-worth-of-rain-in-24-hours/x5984d15d>

<sup>9</sup> [https://www.dea.org.au/how\\_climate\\_change\\_affects\\_your\\_health\\_the\\_facts](https://www.dea.org.au/how_climate_change_affects_your_health_the_facts)

<sup>10</sup>

<https://www.theage.com.au/politics/victoria/substantially-dangerous-melbourne-water-boss-grilled-over-maribyrnong-flood-20231011-p5ebb3.html>

<sup>11</sup>

<https://www.abc.net.au/news/2023-08-23/rochester-floods-parliamentary-inquiry-change-needed/102764020>

There is a need for transparency and community consultation around the actions the Government is going to take to support coastal communities to adapt to these impacts, and where retreat of infrastructure, such as homes, roads, surf lifesaving clubs, shops, etc, will be necessary and now unavoidable.

Living on the coast provides access to nature and wildlife, which improves peoples' mental health, wellbeing, lifestyle, and livelihoods. However, sea level rise will force people away from living on the coast due to areas becoming unsafe and inhabitable.

### **Wildlife and ecosystems**

Current conservation and environmental protection policies are inadequately addressing the climate change impacts that wildlife and ecosystems are being exposed to. This is particularly relevant in light of the Black Summer bushfires in the summer of 2019/20, when vast areas of land across Victoria and Australia were burnt.

Animals are facing constant threats of death or injury due to unpredictable changing seasons or the impacts of disasters, which have a long-term effect on whole ecosystems, including barriers for accessing water, food, and habitat sources.

Biodiversity loss and changes in seasons causes anxiety about the future and our capacity to manage extreme weather events.

### **Drought and crop failure**

Primary producers are concerned with the intensifying changes to climate patterns, which impact stock and thus economic yield. This is discouraging pursuits in crop-based production as the field is now too uncertain.

Those who aren't farmers themselves but rely on food systems for survival are worried about the possibilities of food security in the future.

Farmers are a top concern for many people as one of the most exposed to climate impacts. Barwon South West produces a quarter of Australia's dairy production, an industry at risk in a changing climate.

While "farmers are amongst some of the most vulnerable to climate change, in some farmer communities there is still denial that disasters are linked with climate change", a Horsham resident has shared with us. In communities such as these, the risks of climate impacts and the need to adapt must be communicated by the Government for climate resilience in these communities to be possible.

### **Living affordability**

The financial impact of drought, heatwaves, and changes to rainfall directly affects farming families, as well as those who work in related areas.

Severe weather events, including floods, fires and storm damage, are rendering many low income families with young children homeless, as they are unable to afford fixing the damage or replacing most of their lost belongings.

Water scarcity and drought puts pressure on agriculture, which is tough for farmers and raises prices for consumers.

### **Health**

Risks posed by all climate disasters are poor physical and mental health outcomes due to an increase in social issues. This includes family violence, alcohol, and drug use, either pre-existing or exacerbated due to the trauma of disasters.

Doctors for the Environment Australia outline the effects of climate change on human health particularly in Australia, and how health can benefit from efforts to lessen and prevent climate change in the following:

- Briefing document: How Climate Change Affects Your Health;<sup>12</sup>
- Report: How Climate Change impacts Mental Health in Australia.<sup>13</sup>

### **Impacts at Work**

Unions claim that protections that should apply to all workers are not in place at every worksite, with extreme high temperature usually defined as 35 degrees celsius.

The state of a worker's day-to-day life is a significant factor in how strongly they will be affected by climate impacts. For example, a worker whose home is damaged in a flood or bushfire and needs to take time off will experience heightened stress if they are employed in insecure work, meaning 'insecure income, no leave and few workplace protections.<sup>14</sup> Therefore, Victoria's preparedness for climate disasters is affected by the state of its workforce, including factors such as job security and wellbeing.

In 2021/22, Friends of the Earth conducted a research project with RMIT, 'Climate Impacts at Work',<sup>15</sup> which investigated the effects of climate impacts on Victorian workers. Some key findings from the survey include:

- 75% of workers reported experiencing physical health effects from climate impacts
- Nearly 60% have had to manage staffing disruptions
- 50% have had to manage more agitated clients or customers
- 43% reported mental health impacts
- 45% have faced transport and supply chain disruptions
- Over a third have not been able to travel to or from work due to extreme weather
- A quarter have had to work additional hours due to extreme events and disasters
- Almost 10% have lost wages or had to take personal leave, and 2% have already lost jobs

The above statistics highlight not only the seriousness of each individual impact, but the ways impacts have flow-on effects across industries and outside of people's work lives. While climate change has been framed for a long time as something primarily affecting the non-human environment, these figures indicate the extent to which it has become an insidious presence in the lives of all working people.

### **Action on Adaptation: What needs to be done**

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<sup>12</sup> [https://www.dea.org.au/how\\_climate\\_change\\_affects\\_your\\_health\\_the\\_facts](https://www.dea.org.au/how_climate_change_affects_your_health_the_facts)

<sup>13</sup> [https://www.dea.org.au/how\\_climate\\_change\\_affects\\_mental\\_health\\_in\\_australia](https://www.dea.org.au/how_climate_change_affects_mental_health_in_australia)

<sup>14</sup> <https://www.weareunion.org.au/climatejustice>

<sup>15</sup> <https://cur.org.au/project/climate-impacts-at-work-supporting-a-climate-ready-workforce/>

The Victorian Government needs to:

- acknowledge and widely communicate the climate impact risks to the built environment and infrastructure of Victorian communities, as well as the risk to human safety, livelihood, mental health, and lives, and that this will not be equally distributed,
- commit to and put in place practices for improved, meaningful, and ongoing consultation with Victorian communities to hear from them their concerns, ideas, and requirements, and share with them how the Government is and will assist them,
- adequately and continuously support strong climate adaptation according to individual communities' needs, providing communities with the knowledge to understand the risks facing them and who will be most impacted, affording communities the self-determination to decide how they will adapt, and equipping them with the resources necessary to implement their chosen adaptation solutions,
- put in place measures to ensure adaptation is just and Indigenous-led where possible through taking into account and addressing multiple and intersecting injustices, enhancing the adaptive capacities of people, places and ecosystems in all their diversities, and learning from and integrating practices and knowledges of Indigenous Peoples, and
- fund this large investment into climate resilience and adaptation through implementing the polluter pays principle, making those knowingly responsible for the climate crisis and the current imperative to adapt, namely the fossil fuel industry, provide the money needed, for example through a climate disaster levy<sup>16</sup>.

### **Building preparedness in our communities**

In order to prepare for and adapt to climate impacts and disasters our community needs a good understanding of who will be most impacted in their community and how. AoC suggests interacting with grassroots communities through [Community Resilience Mapping](#)<sup>17</sup> as a tool for local engagement and knowledge-building in communities.

Community Resilience Mapping is an example of a good process that can be implemented in communities by Government or facilitated by Government to enable communities to be clear on the risks facing them due to climate impacts, and what they need to do to become more resilient.

Community Resilience Mapping provides community members with the knowledge of what is already in place to keep them and others in their community safe. It also helps with the pinpointing and prioritisation of climate adaptation solutions that will reduce the specific impacts faced by those most at risk. It captures how climate risk and vulnerability interact in a specific community.

It is an activity used to ensure good climate resilience strategies that keep community members safe. It captures how climate risk and vulnerability interact in a specific community. Ideally it pairs strong scientific evidence with the lived experience and ancestral knowledge of community members.

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<sup>16</sup> <https://australiainstitute.org.au/initiative/the-national-climate-disaster-fund/>

<sup>17</sup> [https://www.melbournefoe.org.au/community\\_resilience\\_mapping](https://www.melbournefoe.org.au/community_resilience_mapping)

Resilience maps that effectively aggregate environmental, physiological, socioeconomic, and experiential data de-silo adaptation efforts and help mitigate compounding risk factors, particularly for those who are most impacted.

They also highlight the sources of strength and adaptive capacity that communities have to draw upon. Knowing these assets helps to inform practical, community-led solutions and identifies the resilience initiatives locals can be proud of.

The process not only covers vulnerability and current and incoming impacts - but importantly, also uncovers good examples of how a community is already responding to and prepared for locked-in climate impacts. And it also provides a canvas for the pinpointing of clear and immediate climate adaptation solutions that can be implemented to keep people safe.

Through highlighting the gaps - what an area is unprepared for and who is not safe - the necessary climate adaptation solutions can be envisioned and realised. It can be used to look at all the climate impacts a community is experiencing and at risk of, or only some, or just one. For example, a resilience map may just consider the impact of heatwaves on their community.

The aim of this process is for participants in the community to leave with:

- A good understanding of who will be most impacted in their community and how
- Knowledge on what is already in place to keep you and others in the community safe
- An idea of what adaptation is needed to be prepared for and reduce the impacts on the community
- A list of climate adaptation solutions that will reduce the specific impacts faced by those most at risk and people keen to take on making them happen

### **What needs to be implemented for increased climate resilience:**

Examples of ways to increase communities' climate resilience and ensure they are adapted to incoming climate impacts to reduce impacts on infrastructure include:

#### **Heat**

- Buildings need to be designed and built and renovated for extreme heat. An assessment of heat impacts must be clearly outlined and understood before any building or infrastructure is approved. Relevant Government-regulated building standards for all new buildings (regarding efficiency, insulation, passive cooling, etc.) and heatwave safe rental standards are needed. Introducing insulation and cooling to the minimal rental standards would create safer homes and prevent heat-related illness and death.
- Plant numerous native trees of a diverse variety for more shade canopy in cities, suburbs, and towns. Recent research indicates that we need 30% to 40% tree coverage to fully negate the heat-island impacts of asphalt and concrete<sup>18</sup>. 'De-paving' reduces heat from asphalt and concrete. We also heard from the Frankston and other communities the need for value being placed on mature trees as key assets, both as habitat and shade. They must be retained, and their health monitored, in conjunction with new plantings.
- Subsidise the cost of power for the most vulnerable people in our communities
- Already in place infrastructure, such as air-conditioned facilities, can be utilised for heat relief. These public spaces that are already available for and used by the community to

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<sup>18</sup> <https://pursuit.unimelb.edu.au/articles/these-maps-tell-us-we-need-to-cool-our-sweltering-streets>

keep cool, need to be made functional as heat refuges and available outside of office hours during heatwaves. Community heatwave shelters that are able to accommodate people staying overnight in extreme conditions are also needed. A means for people to reach these spaces safely and return home safely, day or night, needs to be provided. The homeless need consideration here as well.

- More frequent, air-conditioned public transport with properly shaded stops and stations.

## **Bushfires**

- As bushfires increase, wildlife is forced into areas it doesn't usually live, creating competition with local species for food and habitat.
- Respect Indigenous knowledge and cultural protocols to create the two-way knowledge exchange needed to understand fire impacts and behaviour.
- Cultural burning and cool burns for ecological benefit, and other forms of proactive land management guided by and implemented according to Indigenous knowledge.
- Certain plants grown on agricultural land can be utilised to help mitigate fires. The comparative flammability of different plants could be used to design 'green firebreaks' where low-flammability native species could be planted around farms, houses, and communities. More research is needed and could be funded to explore these ideas in an Australian context<sup>19</sup>.
- Reliable communication between responders and communities with open access to data and information from the operational management system (both in real time and from planning and historical databases) empowers communities to have control and accurate awareness of risk and response.
- A volunteer remote area firefighting team (RAFT) that Victorians living in urban areas can join to increase firefighting capacity.
- Legislation and protections for cool temperate forests, rainforests and other wet ecosystems to decrease fire risk.
- More funding for first responders, aerial fire response, and volunteer training and management.
- Funding, communication, and implementation for community evacuation plans in high-risk locations, and future high-risk locations.
- Upgraded and accessible technology and signage for warning systems.
- Reducing smoke affecting communities and people's health by ensuring any burning done to prevent bushfires is actually necessary and correctly implemented using the latest scientific modelling in conjunction with Indigenous knowledge.

## **Floods**

- Better stormwater management through capture in underground storage, filtration, and permeable surfaces and spongy natural infrastructure, such as urban wetlands, rain gardens, and vegetation, to absorb water.<sup>20</sup>
- Transforming parks into stormwater basins through the creation of water storage capacity, such as Enghaveparken (Meadow Park) in Copenhagen, where water is stored above ground in a multifunctional reservoir that functions as a sports court with stepped seating in dry weather.<sup>21</sup>

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<sup>19</sup>

<https://theconversation.com/fire-smart-farming-how-the-crops-we-plant-could-help-reduce-the-risk-of-wildfires-on-agricultural-landscapes-215703>

<sup>20</sup> <https://www.vox.com/videos/23932182/urban-design-sponge-cities-climate-biodiversity>

<sup>21</sup> [https://www.melbournefoe.org.au/what\\_community\\_climate\\_adaptation\\_fund\\_achieve](https://www.melbournefoe.org.au/what_community_climate_adaptation_fund_achieve)

- Improved technology and communication for warning systems, such as designated flood wardens for improved warning of quickly rising water. Maribyrnong used to have a system whereby residents were appointed as flood wardens that historically work well. They were briefed by the council of imminent dangers and then they relayed this to other residents.<sup>22</sup>
- Building location risk assessments - identify locations most at risk of flooding and modify planning to prevent development in these areas.
- Community education and resources to prepare residents and support vulnerable community members.
- River communities need to be part of state-wide solutions to emergency weather events like flooding.

### **Sea level rise and coastal erosion**

- Coastal erosion prevention measures through the planting of native vegetation and revegetation.
- Legislation, building zones and building requirements for high-risk location sites on the coast.
- Funding and resources to support local municipalities to strengthen community resilience.
- Compensation and support for communities to relocate inland.
- Groynes, artificial reefs, and other protective infrastructure that is suited to the particular site and conditions to prevent sea level rise and erosion.

### **Wildlife and ecosystems**

- Legislated protection and recovery plans for vulnerable habitats, species, and ecosystems.
- Follow advice from First Nations leaders and fund First Nations-led conservation.
- Expand sanctuaries and parks with a focus on creating wildlife corridors.
- Research to determine where and how to protect our most vulnerable wildlife and ecosystems.
- Fund conservation groups and wildlife carers/volunteer animal rescue.

### **Drought and crop failure**

- Government funding and incentives for farmers to transition to regenerative agriculture practices.
- Research into and incentivising drought tolerant and diverse crops (including native crops).
- Revegetation of farmland and surrounding natural ecosystems to stop erosion and soil depletion.
- Education and incentives around buying and producing food locally.
- Education on and funding for community gardens and urban farms in urban design.
- Protecting existing ecosystems and planting more trees to encourage rainfall in dry areas.
- Water collection systems, such as stormwater harvesting and rainwater harvesting.
- Government subsidies for water tank instalments and guttering maintenance, both privately and on public buildings.

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<https://www.theage.com.au/politics/victoria/the-maribyrnong-river-flood-warnings-that-receded-thenwent-unheeded-20230928-p5e8ft.html>

- Government investment in upgrading and maintaining public water infrastructure, such as stormwater drains and water catchment areas.
- Research and modelling into changed rainfall patterns, with this information being made available to farmers and the wider community.
- Education on diverse and resilient plants and crops for public and private land.
- Stop land clearing and plant more trees to encourage rainfall in drought-stricken areas.
- Incentivise and fund transition to regenerative farming practices.
- Incentivise and provide funds for farmers to transition to crop diversity and crop suitability to location and seasonal patterns.
- Incentivise and subsidise water tank instalment on public and private buildings.
- Invest in water collection infrastructure, such as stormwater harvesting and rainwater harvesting.
- Supporting communities that are likely to experience drought with resources and funding.

### **Living affordability**

- Education on diverse and resilient plants and crops for public and private land.
- Research into and incentivising the farming of drought tolerant and diverse crops (including native crops).
- Education on and funding for community gardens in urban design.
- Community education and resources to prepare residents and support vulnerable community members.

### **Health**

- Funding for mental health services, including programs specific to the climate crisis, vulnerable communities, regional areas, and schools.
- Incentives and subsidies for housing insulation, air filtration systems, and air purifiers.
- Research and advice from experts on air quality and protective measures for communities.
- Create community centres for refuge in extreme weather events.
- Fund urban greening and active transport infrastructure.

### **Work**

- All workers and all industries need to be supported to adapt to climate change. All organisations should be encouraged and supported to have a climate change adaptation strategy.
- OH&S measures must be put in place, for example heat protection measures need to be in place at all workplaces/worksites. On very hot days, employees should be relocated out of direct sunlight or into an air conditioned area and should be supplied with appropriate protective clothing, sunscreen, hats, and cool drinks. Uniform requirements, including PPE, should also be reviewed.
- Workplace training and education on climate impacts - how to avoid or manage impacts.
- More flexible work options to enable workers to undertake work when conditions are more conducive to productivity (e.g., early morning rather than middle of the day), avoid commuting, or take personal leave to respond to extreme weather events.
- Government needs to enforce these OH&S regulations; mandate access to flexible working arrangements, as well as ensure that home working situations are also safe and comfortable; and improve building design standards to provide better protection from extreme conditions at work.

## The role of the Government in preparation plans

### Disaster ‘recovery’ versus ‘preparedness’

When extreme weather events occur, hard infrastructure such as power, water and transport systems break down. Social infrastructure such as community and individual support services can be the determining factor between life and death.

Current Australian climate impact plans emphasise “social recovery” rather than “social preparation”.<sup>23</sup> An extreme amount of funding is dedicated to recovery, while a minute amount is provided to build plans of preparation that prevent high amounts of damage to social infrastructure. Organising our systems to be proactive rather than reactive to disasters would open the potential for communities to have a sense of ownership over how responses to events unfold. Providing resources to communities to plan for how they can best ensure harm is minimised is not only a pathway to community health but also an efficient use of the state budget.

Australia does not have a national plan to develop its social infrastructure to provide shelter, support and community connection during extreme events and climate disasters. The Productivity Commission estimates we spend “97% of its disaster funding on mopping up and just 3% on getting ready”.<sup>24</sup> In the 20 years to 2022, \$24 billion was spent on disaster recovery and relief efforts (98% of disaster spending). Only \$510 million was spent on resilience projects (2% of disaster spending). The Australian Prudential Regulatory Authority has warned Australia must invest \$3.5 billion each year to limit the damage from increasingly frequent natural hazards, suggesting that simply responding to disasters after the fact is likely to cost 11 times more. Climate disasters are anticipated to cost Australia \$73 billion annually by 2026, even if action to curb emissions is taken now. There are also very large indirect social costs, such as the impact on people’s mental health.<sup>25</sup>

Australia is being warned that it will only be able to keep its people safe by preparing for the worst; patching things up afterwards won’t suffice any longer.<sup>26</sup> A permanent Victorian Community Climate Adaptation Fund (VCCAF) would allow Victorian communities to prepare for extreme weather events by funding community groups that want to undertake localised adaptation and resilience projects. Rather than money being provided in the aftermath from a state source, communities would apply for grants to build their local projects that are uniquely created to suit their own geographical and social conditions. The local community groups would

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<sup>23</sup>

<https://johnmenadue.com/the-missing-link-in-australias-climate-change-adaptation-strategy-social-infrastructure/>

<sup>24</sup>

<https://johnmenadue.com/the-missing-link-in-australias-climate-change-adaptation-strategy-social-infrastructure/>

<sup>25</sup>

<https://www.news.com.au/technology/environment/climate-change/adapt-or-die-nightmare-weather-coming-for-unprepared-australia/>

<sup>26</sup>

<https://www.news.com.au/technology/environment/climate-change/adapt-or-die-nightmare-weather-coming-for-unprepared-australia/>

best be able to use the funds efficiently and effectively to decrease the impact of climate events rather than investing in an unknown exhaustive scale of clean up.

*The Cost of Extreme Weather*<sup>27</sup> from the McKell Institute by the Insurance Council of Australia (ICA) shows that the average annual household cost of extreme weather has been \$888 over the past 10 years. This figure is expected to jump to more than \$2,500 a year by 2050. Disaster resilience currently accounts for 2% of spending, in comparison to \$24 billion of current Commonwealth expenditure on disaster relief. Evidence that the insurance cost to everyday Australians will be significant is demonstrated in the \$3.9 billion increase between 2021 and 2022. This insurer data provides insights based on a review of extreme weather events during the 12 month period.

Climate change is creating an insurability crisis in Australia due to worsening extreme weather. The insurance industry is warning that Australia must urgently adapt to extreme weather or face soaring premiums. Insurance is set to become increasingly unaffordable or unavailable in large parts of Australia. This is another example of how the cost of the climate crisis is burdening those already struggling financially as insurance becomes uneconomical for everyday people.

The Victorian Labor Government has set ambitious emission reduction targets and renewable energy targets and has proactively communicated the positive outcomes of investing in these solutions to communities. It is now time for it to take action on the need for adaptation to climate impacts, rather than focusing on disaster response and recovery. With intensifying impacts from fire, flood, storm surge and other weather related events continuing to put communities on a reactive footing, the time is ripe for the Government to demonstrate a forward-thinking approach to climate impacts and back local solutions that empower communities.

When it comes to the climate crisis, an ounce of prevention is worth a pound of cure. The Victorian Government needs an early intervention framework to ensure that it can account for the avoided costs that result from strong mitigation policies. The Andrews Government set out interim Emission Reduction Targets and Climate Adaptation Plans for Victoria. The current Government needs to modernise the budget process to align public spending with its obligations to the Climate Change Act (2017) — the implementation of the state climate strategy and adaptation action plans.

Each year, the Victorian Government allocates billions of public investment into infrastructure, government-supported programs, and services. While the Government has a clear grasp of expenditure on education, health, and infrastructure, et cetera, there is currently limited knowledge around climate-related expenditure and the ways in which climate impacts will affect the budget in coming decades.

The Victorian budget has evolved over the years to deal with changing context and issues. The Cain Government modernised the Victorian budget in the 1980s. It brought greater transparency to the process by linking expenditure to a broader economic strategy and later including social justice thinking. Victoria became the first state to adopt accrual accounting under Premier Jeff Kennett.

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<https://insurancecouncil.com.au/resource/new-research-shows-every-australian-pays-for-extreme-weather/>

In 2017, ratings agencies Standard & Poors and Moody's stated that banks, cities, and states that fail to account for climate risk could face credit rating downgrades. It is advantageous for governments to adopt climate-risk accounting measures to get out in front of the move. Failure to do so could see the Government making contradictory decisions, such as allocating public funding towards forestry, which undermines the state's greatest carbon sink, or major road projects, which lock in existing dependency on private motor vehicles.

FoE recommends that the Government publish a Climate Impact Statement when the Victorian state budget is released in 2025, effectively modernising the budget to align with state climate policy. The statement would present:

- Baseline and categorise climate-related expenditure: There is a clear need for the Government, key stakeholders, and public to understand how expenditure contributes towards direct mitigation, indirect mitigation, adaptation, and disaster response. This analysis can form a baseline and allow governments, departments, and stakeholders to track trends.
- Carbon accounting: Adopt carbon emissions valuation, such as the 'social cost of carbon' model used in the United States, to account for the greenhouse gas emissions liabilities of State Government activities. This would be incorporated into cost-benefit analysis of government programs and investments.

## **AoC's Policy Recommendations**

As already stated, AoC is calling for an acknowledgement of the climate impact risks to Victoria's built environment and infrastructure, human safety, livelihood, mental health, and lives; that this will not be equally distributed; and better community education, consultation, and engagement through various means, which could include Community Resilience Mapping, AoC also has two specific policy asks.

The Act on Climate Collective is calling for a:

- Victorian Community Climate Adaptation Fund (VCCAF), and a
- Rural Area Firefighting Team (RAFT).

In addition to these policies, which are outlined in detail below, AoC calls on the Victorian Government to apply a strategy for just adaptation that ensures strong, diverse community consultation and involvement in all climate adaptation decision-making, and climate adaptation is Indigenous-led.

In preparing for climate impacts, the Government must follow a just adaptation framework that:

- addresses multiple and intersecting injustices
- enhances the adaptive capacities of people, places and ecosystems in all their diversities
- learns from and integrates practices and knowledges of Indigenous Peoples<sup>28</sup>.

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<https://www.futureearth.org.au/sites/default/files/2022-09/national-strategy-for-just-adaptation-summary.pdf>

The injustices that underlie the unevenness of climate impacts must be considered in all climate adaptation decisions. For just adaptation, community consultation must be strengthened and diverse groups must be actively supported to be involved in decision-making. Local communities and community groups must be given agency and trust to create their own relevant pathways to adaptation, for instance through community resilience mapping.

Climate adaptation must be Indigenous-led. The rich historic experiences and knowledges of Indigenous Peoples must be recognised, supported, and learned from. A just adaptation framework should be embedded in all levels in government, sectoral bodies, industry, community organisations, and in research.

### **Victorian Community Climate Adaptation Fund (VCCAF)**

The Victorian Government should provide funding for local adaptation initiatives that focus on building communities' resilience to withstand the climate impacts threatening their built environment and infrastructure.

Under the Victorian Climate Change Act (2017), the Government is required to outline its Climate Change Strategy and Adaptation Action Plans every five years. While the Government has been effective in its mitigation work, its adaptation planning work needs to be backed up with ongoing funding and public communication to ensure communities are prepared and aware of the climate impacts forecasted to affect Victoria.

We call on the Victorian Government to establish a permanent Victorian Community Climate Adaptation Fund (VCCAF). The fund would distribute grant money annually to community groups that apply to undertake localised adaptation and resilience projects. This would help the Government meet its obligations to the Victorian Climate Change Act (2017) and ensure Victorian communities can enhance their capacity to adapt to impacts.

A permanent Victorian Community Climate Adaptation Fund (VCCAF) builds on previous grant funding for climate adaptation and would make this funding a continuing feature of the Victorian budget.

One-off adaptation grant funding has been previously provided by the Victorian Government through the 2017 Virtual Centre for Climate Change Innovation Program (VCCIP) and the 2019 Community Climate Change Adaptation (3CA) grants program.

The \$4.3 million VCCIP grant scheme provided start-up funding for community groups, local councils and businesses to develop innovative solutions to climate change. The scheme unearthed strong demand for government investment in climate change projects - it was dramatically oversubscribed, but could only support 24 projects.

Community groups across Victoria were supported to carry out a diverse range of adaptation and resilience projects through the \$1 million 3CA grants program: from planting nature corridors, to trialling drought-proofing techniques, to community education and awareness initiatives.

A permanent VCCAF builds on these successful grant scheme models. The fund would recognise the highly localised nature of climate impacts and ensure community-led climate

adaptation, taking a bottom-up approach of dispersing money to local groups that know the unique needs of their communities well.

The Victorian Government has already shown a keen understanding of the need to fund adaptation and shown leadership through the 2017 Virtual Centre for Climate Change Innovation Program (VCCIP) and the 2019 Community Climate Change Adaptation (3CA) grants program.

The \$4.3 million VCCIP grant scheme was established in 2017 to provide start-up funding for community groups, local councils and businesses to develop innovative solutions to climate change. The scheme unearthed strong demand for government investment in climate change projects; it was dramatically oversubscribed and could only support 24 projects.

The \$1 million 3CA grants program supported community groups across Victoria to carry out a diversity of adaptation and resilience projects: from planting nature corridors, to trialling drought-proofing techniques, to community education and awareness initiatives.

The Government can build on these successful grant scheme models by establishing a permanent VCCAF. We recommend the Government begin with an initial investment of \$5 million, and review the level of demand in the community and viability of projects before scaling it up.

The money for the fund would be sourced from the fossil fuel industry, and redirected into the community.

Making polluters pay for their contribution to climate change and the damage they are causing would ensure people are provided with the means to locally lead their climate adaptation pathway. This could be done through a levy on fossil fuel exports to fund actions to mitigate climate change impacts, which a majority of Australians support<sup>29</sup>.

Alongside this, stopping investment in fossil fuels is vital to reduce future impacts and will also enable the redirection of funds into climate impact preparation.

Federal Government funds should also be made available to State Governments to support preparedness. In fact, regarding responding to climate disasters, when in Seymour following damaging floods in January 2024, Jacinta Allan announced that "Victorians can absolutely expect that we will push the Federal Government for a fair share of funding for affected communities"<sup>30</sup>.

The catastrophic 2019/20 bushfires saw community awareness about climate impacts increase along with public support for State Government leadership. With intensifying impacts from fire, flood, storm surge and other weather related events continuing to put communities on a reactive footing, the time is ripe for the Government to demonstrate a forward-thinking approach to climate impacts and back local solutions that empower communities.

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<sup>29</sup> <https://australiainstitute.org.au/post/the-climate-crisis-isnt-just-an-environmental-one/>

<sup>30</sup> <https://ncreview.com.au/2024/01/09/premier-jacinta-allan-praises-seymours-efforts-amid-floods/>

## **Remote Area Firefighting Team (RAFT)**

Longer, more intense bushfire seasons are placing huge burdens on Victoria's firefighters and their ability to ensure the safety of the state's built environment and infrastructure. The Country Fire Authority (CFA) has lost nearly 2,000 volunteers since the Black Summer bushfires, and many rural CFA brigades are ageing as young people move to urban areas for work and study. Additionally, as climate change causes bushfire seasons around the world to overlap, we will not be able to draw on external firefighting support as we have in the past for 'surge capacity' needed during large bushfires.

We call on the Victorian Government to create a volunteer remote area firefighting team (RAFT) that Victorians living in urban areas could join. It is clear that to tackle the climate-fuelled bushfire seasons of the 21st century, Victoria needs to strengthen its firefighting capacity by unlocking new sources of volunteers within the state.

We must increase our ability to respond rapidly and effectively to fires when they do start. Despite solid investments by the Victorian Government, it is clear that in bad fire seasons, where there are multiple simultaneous fire starts due to lightning, that Victoria does not have sufficient capacity to stop all these ignitions turning into fires. Forest Fire Management Victoria (FFMV) does an outstanding job of protecting our public lands and putting these fires out, as do the air crews who tackle remote area fires. But in those peak moments we need more capacity.

With fire seasons getting longer due to climate change, there are many things we need to do to respond effectively to more intense seasons, such as continuing to expand the overall number of professional firefighters, including remote area teams, investing in aircraft and early warning systems and so on. We must continue to support volunteer crews through the CFA with equipment and training and consider how we make volunteering sustainable through long and exhausting summers. We should consider the proposal to establish a national 'semi professional' firefighting force to be deployed locally as needed, as has been suggested by the federal Emergency Services minister Murray Watt and the recommendation from a senate inquiry into the 2016 fires in Tasmania for a national remote area firefighting team.

Locally, an idea is for Victoria to establish a volunteer remote area firefighting team, as the ACT, Queensland, NSW and Tasmania have done. These crews would be trained to provide additional capacity to support the efforts of FFMV.

Interstate teams draw from existing volunteer brigades. At present, most people living in urban areas can't contribute to volunteer firefighting efforts because they live too far from a CFA station, which means that the burden of fire fighting continues to fall on rural and regional communities, while the benefits of effective firefighting are experienced by all Victorians.

CFA brigades on the urban fringe are increasingly important in providing capacity, especially 'surge capacity' of extra crews in bad fire seasons. However, most people who live in Melbourne are well beyond the 8 minute call out time expected of people in 'medium urban' areas<sup>31</sup>. Brigades in many rural and farming areas are struggling to maintain membership, and the CFA

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<sup>31</sup> <https://www.cfa.vic.gov.au/about-us/publications/emergency-response-times>

has lost around 2,000 volunteers<sup>32</sup> over the past two years. This appears to be a problem around the country. For instance there are reports that around 10,000 volunteer firefighters have quit the RFSQ (Rural Fire Service Queensland) over the last four years.

As fire seasons get longer, it will be harder for many existing volunteers to maintain their current level of involvement. We will need additional capacity to respond to fires.

Victoria could establish its volunteer remote area teams by offering opportunities to people living in urban areas to sign on and be trained, indicate when they are available, and then be deployed at times of urgent need. They would need to do an annual qualification refresher course before being deployed. This would mean we skill up new trained firefighters rather than draining the existing volunteer base. This is more complicated than attracting people who already have fire qualifications and experience but would allow people who love natural places to play a role in protecting them through committing time to firefighting efforts.

Creating opportunities for people living in large centres like Melbourne and Geelong can be expected to increase diversity within CFA volunteers and attract many young people to firefighting.

What we recommend could be influenced by the Remote Area Firefighting Team (RAFT) program in NSW, who are specialist members of the New South Wales Rural Fire Service or National Parks and Wildlife Service who are trained for work in rugged, isolated areas that firefighting tankers can't access by road. They can then be transported in by 4WD before hiking to the fireground. RAFTs are skilled in dry firefighting techniques such as creating firebreaks by cutting mineral earth control lines or undertaking back burning work.

For a modest investment, such a team would provide welcome extra capacity to our first strike capacity in extreme fire seasons. In Tasmania, the State Government put an initial investment of \$2.3 million in to set up teams. They now have 140 qualified individuals. Tasmania also puts a small amount each year (currently \$160,000 per year<sup>33</sup>) to train up new recruits.

These crews could be deployed as needed through a simple process: trained volunteers commit to do a refresher at the start of each season, then nominate when they will be available over summer. They can then be deployed as strike teams at times of great need: for instance, when it is expected there will be a large number of new fire starts (e.g. from lightning storms) or to assist on existing 'campaign' fires where local CFA crews would normally be allocated.

Having volunteer teams based in urban areas would:

- represent a new way of building firefighting capacity,
- build diversity within the CFA by attracting young people and people of diverse backgrounds,
- help relieve the burden on existing rural and regional fire brigades who are expected to provide people for deployment as strike teams through summer, and

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<sup>32</sup>

<https://www.abc.net.au/news/2022-12-21/victoria-cfa-loses-nearly-2-000-volunteers-in-two-years/101797082>

<sup>33</sup>

<https://www.treasury.tas.gov.au/BudgetPapersHTML/Budget2022/BP2/2022-23-BP2-27-State-Fire-Commission.htm>

- could be delivered at a very small overall cost to the taxpayer.

Climate change is supercharging fire seasons. It is putting new burdens on existing firefighters and their families and on state budgets. Providing opportunities for city based people to volunteer their time in firefighting efforts would be a smart response to the reality of longer and more intense fire seasons.

If Victoria establishes its RAFTs by offering opportunities to people living in urban areas and outside the catchment of CFA stations, this would increase the overall pool of volunteer firefighters.

This could be done in two stages:

- Immediate opportunity: call for expression of interest from people with previous firefighting experience who have moved to Melbourne for work, study or family reasons but live too far away from a station to volunteer. Create a training program using RAFT trainers from NSW or QLD. Train these firefighters to be proficient in remote area firefighting. Estimated start up cost to set up training programs, then train and equip first teams: less than \$200,000. Estimate of \$1,500 to \$2,000 per firefighter (training and equipment). If funding was secured in the May 2024 budget, teams could be ready by next summer. Evaluate pilot program.
- Short term opportunity (after the 2023/24 season): Train up new volunteers without previous experience who live in Melbourne, who will need to do general firefighter training, and then get experience at appliance-based firefighting (potentially through the Vols on Hols program), before applying to be a RAFT firefighter. Estimated cost to set up and train and equip first teams: \$1 million.

Other organisations also calling on the Victorian Government to establish a Volunteer Remote Area Firefighting Team open to urban Victorians to join are<sup>34</sup>:

- Australian Firefighters Climate Alliance
- Environment Victoria
- Tomorrow Movement
- Friends of Mt Stirling
- Practical Ecology
- Victorian National Parks Association
- For Wild Places
- Protect Our Winters
- Melbourne Uni Mountaineering Club
- Wild Magazine
- Goongerah Environment Centre (GECO)
- Bushfire Survivors for Climate Action
- Australian Plants Society Victoria
- Prom Coast EcoLink
- Outdoors Victoria
- Friends of Bogong
- RMIT Outdoors Club
- Friends of Mallacoota

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<sup>34</sup> [https://www.melbournefoe.org.au/open\\_letter\\_vic\\_raft](https://www.melbournefoe.org.au/open_letter_vic_raft)

## Smart Refuge Centres

During disasters, access to electricity and communications is one of the most pressing needs for communities. But these are often some of the first things to go down. Smart Refuge Centres give communities the tools and resources to become resilient during disasters by upgrading central community hubs.

Identifying and upgrading central community spaces with solar and battery storage throughout would ensure communities have a safe space to shelter during disasters, and ensure people can continue to access basic services like electricity and communications during disaster. It is vital these are strategically identified locally so that communities know where and how to get support when they need it. These central community spaces would have not only a stand-alone power, but emergency communications capability such as sky link, reverse cycle air conditioning to keep cool or warm, and freezers to prevent food loss and feed the hungry.

We know from recent examples, such as the Mallee fires, many people left their homes and food went to waste while those who stayed behind couldn't get food. Purchasing food became difficult as eftpos systems went down with communications systems. When recent storms impacted Mirboo North, polluting diesel generators were brought into the area after several days to provide emergency power. Instead, emergency renewable energy systems in portable units could be made available for communities to access quickly.

Read more about the Smart Refuge Centres concept in [this policy brief](#) by Voices of the Valley.

## Summary

Communities are experiencing increased and more severe extreme weather events, and the flow on effects of the realities of climate change including poor mental and physical health and a loss of hope for the future. Adapting to a changing climate demands increased community resilience and local processes of adaptation. To build resilience to climate disasters in our communities, we must put the needs of those most at risk at the forefront of our preparation, plans and response.

We believe the Government needs to play a role in assisting communities to increase the resilience of their built environment and infrastructure, and to facilitate local adaptation processes by providing funding, training and other resources to support communities to support themselves into the future.

To prepare for climate disasters, we see a clear need for a [permanent Victorian Community Climate Adaptation Fund \(VCCAF\)](#)<sup>35</sup> as well as a [national 'semi professional' firefighting force](#)<sup>36</sup>. Victorian communities know what climate adaptation plans and projects are most needed and relevant for them and their local built environment and infrastructure.

A permanent VCCAF would help to ensure that climate adaptation is community-led, and continuously and adequately funded. A volunteer remote area firefighting team, such as has been established in the ACT, Queensland, NSW and Tasmania, would provide additional capacity to support the efforts of Forest Fire Management Victoria (FFMV). These two

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<sup>35</sup> [https://www.melbournefoe.org.au/what\\_community\\_climate\\_adaptation\\_fund\\_achieve](https://www.melbournefoe.org.au/what_community_climate_adaptation_fund_achieve)

<sup>36</sup> [https://www.melbournefoe.org.au/thinking\\_fire](https://www.melbournefoe.org.au/thinking_fire)

recommendations would go a long way to support communities to prepare for the inevitable natural disasters that await.

We call on the Inquiry and Advisory Committee to recommend to the Government that it should establish a permanent VCCAF and a national 'semi-professional' firefighting force to increase communities' preparation and resilience in the face of and improve its response to locked in climate impacts.

We ask that this Committee Inquiry seize the opportunity to highlight the urgent need to promote and strengthen local community-led climate adaptation solutions to improve the resilience of their built environment and infrastructure, and that the Government needs to take tangible actions to:

- introduce a real and ongoing financial commitment to community adaptation in the yearly Victorian budget;
- make polluters pay, for example through a levy on fossil fuel exports, and divest from fossil fuels to enable adequate investment in climate adaptation;
- embed Indigenous leadership and a just adaptation framework in all levels in government, sectoral bodies, industry, community organisations, and in research;
- acknowledge the risks to and concerns of communities, listen to people's lived experience and Indigenous knowledge and ensure policy proposals are highly localised and community designed and led, through local activities such as community resilience mapping; and
- provide an immediate and just transition away from fossil fuels to reduce the need to prepare for ever greater climate impacts and disasters.

The Government needs to actively and adequately support communities, workplaces and organisations in their preparation efforts to reduce the risks to Victoria's built environment and infrastructure and keep people safe from climate impacts and future disasters. Every step we take to help communities adapt to locked-in climate impacts secures a safer future and builds resilience, protecting people and country.

## **Further comments from Friends of the Earth's Sustainable Cities, No More Gas and Nuclear Free Collectives**

### **Public Transport Infrastructure**

Friends of the Earth Melbourne is campaigning on Sustainable Cities – public transport, active travel and no new major roads. We are currently focusing on campaigning for better bus services for Victorians. Communities critically need support and funding to prepare for and adapt to the climate impacts threatening their day-to-day lives and urban fabric.

Public transport infrastructure and services are a key component of Victoria's built environment and have already proven susceptible to climate impacts. Public transport in its current form in

Victoria fails to address climate change as a transport issue and adapt to the effects of climate change.

### **Public transport and decarbonisation**

The transport sector is the second-largest and fastest-growing source of polluting greenhouse gas emissions in Victoria. A massive expansion of public transport infrastructure and mode shift away from private cars needs to be accelerated for us to meet our climate targets and provide diverse and fair transport options for all Victorians.

To ensure communities and the infrastructure they rely on are resilient in the face of increasing climate impacts there needs to be a transition away from the types of transport which radically speed up intensifying climate disasters. Simultaneously, by developing structures that will withstand a changing climate we can be better prepared to transit effectively through extreme, unexpected conditions.

All future state and federal budgets should direct transport spending away from new major road projects and into improving the public transport network. Transport plays a huge role in the transition to supporting climate ready communities, demanding modes of transit that are efficient, economical and strong enough to power large numbers of people moving around without worsening the climate crisis.

While private electric vehicles help alleviate transport emissions, we should not view it as the only solution as it fails to make our transport network more resilient and equitable for all Victorians to use. Extensive research has demonstrated that electric vehicles alone will not be enough to hit climate goals if transport solutions are not diversified. Latest research from Climateworks show that zero-emission vehicle sales will need to hit 72% of sales by 2030 to keep transport emissions at a level compatible with 1.5 degrees of global warming. This also ignores many groups of Victorians behind with limited transport options and mobility, such as people who cannot drive, children, the elderly and people who want to support climate justice. To build resilience to climate disasters in our transport network, we must put the needs of those most susceptible to these risks at the forefront of our preparation and planning.

### **Transport inequity and climate impacts**

We acknowledge inadequate public transport infrastructure and services as an intersectional issue that impacts people's opportunity to become part of the climate movement and widens inequality across our state

Currently, public transport is characterised by infrequent services and limited infrastructure, often failing to bring people to where they need to go safely. Services, especially for buses, are infrequent with an average of 40-minute waits incompatible for Melbourne's intensifying neighbourhoods. Public transport stops and accessing them often lack weather-proof shelter protecting passengers from the elements.

Below are real-life examples of Victorian residents using public transport, situations that will worsen due to climate change.

- Nasreen, a resident from Mambourin in Melbourne's western suburbs, is a shift worker and starts work early in the morning. Every day she has to brave the cold and walk 40 minutes in the dark just to get to work. Whenever daylight saving ends, she feels concerned at how dark it is going to be when she gets home from work at night. She feels afraid to walk across the bridge with no lighting, and smashed glass all over the footpath. People who are dependent on the public transport network will face more challenges when weather extremes affect transport timetables, leading to longer waiting times and journeys in addition to current challenges.
- Adele, a resident from Melbourne frequently experiences accessibility issues with her 80 y.o mother. They are affected by the lack of/inadequate shelter at tram and bus stops, infrequent and unreliable bus services, and having difficulty getting into and out of the bus. Extreme weather conditions add significant barriers to access to public transport for vulnerable users and pose a serious health risk during scorching days.

Public transport has also become susceptible to extreme weather events, leaving many Victorians behind with limited mobility. An extreme storm that occurred in February this year has not only left 500,000 homes without electricity, it has also left many public transport users stranded – as major delays and bus replacements for trains were rampant, the public transport system is left in a paralysed condition.

Below are real-life examples of Victorian residents being left behind with limited transport options and mobility, and their situation will further exacerbate climate change and be affected by extreme weather conditions.

- Roman, a resident of Wyndham Vale in the City of Wyndham, shared that due to the lack of public transport, he and his wife had to buy two vehicles just to commute to work. He emphasised that this is a huge financial burden on top of the cost-of-living crisis, and that he prefers using public transport for its cost-effectiveness to limit car emissions. He mentioned that traffic congestion and air pollution is going to get worse with the high number of car ownership in these new growth suburbs.
- Randeep, a resident and new migrant from Mt. Atkinson Estate in the City of Melton has a fear of driving and driving is not an option. She relies on her husband to travel around, or it costs \$15-\$20 uber (one-way) to the nearest train station. The nearest bus stop is a more than one hour walk on an unsafe highway without a footpath. Extreme weather conditions will further narrow her already limited choices as it is known to cause disruption to services.

To build resilience to climate disasters in our transport network, we must put the needs of those most susceptible to these risks at the forefront of our preparation and planning.

In preparing for climate impacts, the government must follow a just, tangible climate adaptation framework that addresses multiple, intersecting justices. We believe the Government needs to play a pivotal role in reforming the bus network across Victoria to enable more people to access frequent, reliable and sustainable transport to access opportunities for climate justice and essential amenities, especially as extreme weather events increase in frequency. Our collective has been advocating for a simpler, more frequent and sustainable bus network in Melbourne's western suburbs to address the core issue that is negatively impacting mobility of some of the disadvantaged population groups in Victoria. We demand for a pilot reform program in the western suburbs, with hope that such arrangement can be expanded to the entire Victorian bus network, to fulfil the environmental and social outcomes outlined in *Victoria's Bus Plan*.

Furthermore, to adapt to our worsening climate, the Government should increase shelters at train stations, tram stops and bus stops. Cooling facilities should be provided at existing infrastructure, while new public transport infrastructure should be designed with passive cooling as a key consideration to provide a safe and comfortable waiting environment for passengers. The Government must also develop contingency arrangements for public transport under extreme weather to minimise delays and discomfort for passengers and public transport staff alike. Overall, it is crucial for the Government to drastically improve the quality of public transport infrastructure and services to ensure Victorians have ample access to safe, sustainable transport options amidst the climate crisis.

### **Recommendations:**

- The rapid implementation of the Victorian Government's Bus Plan, prioritising a fast, frequent and connected bus network so that everyone in our community can move around safely and affordably. The State Government should pilot a fast, frequent and connected bus network in the areas of the West that currently sit within CDC's contract, and then expand that system to the rest of Melbourne.
- Put disability accessibility at the heart of all transport infrastructure, upgrade tram lines and continue the rollout of modernised E-class trams.
- Boost funds to construct and maintain walking and cycling paths, and immediately fund all bike paths with development approval.
- Prioritise and put in place systems to facilitate rail freight, to reduce toxic emissions from trucks currently transporting freight.
- Stimulate the manufacturing of electric buses to revamp local manufacturing jobs.
- Upgrade the bus network by increasing bus services along major and popular transport routes with 'turn up and go' frequencies, as well as identifying and servicing hubs where there are no alternative public transport options. This will unlock potential for people to easily get to work or study, and participate in and contribute more to society without cars.
- Bus stops should be converted to high quality, accessible, and comfortable bus shelters.
- Power all new transport infrastructure -- trains, trams, buses, and electric vehicle charging stations -- with renewable energy to lock-in emissions reductions and create regional jobs.

## **Gas Infrastructure**

Prepared by the No More Gas collective.

### **Gas and the risks of climate change on Victoria's built environment and people**

Climate readiness is about more than just weathering the extreme events that we are already seeing happening in our communities. It also means ensuring that the general trends of rising global temperatures are more bearable and liveable day to day.

Gas is more than just a potent climate accelerant. It is a volatile fire and explosion risk and the urgency of removing flammable methane from our communities is one of climate, personal and community safety. Across the gas network, around 3.8% of the fossil gas in the pipelines leaks continuously. In high heat conditions, gas is more easily able to escape from these leak points, leading to increased risk of serious gas explosions such as the Whalan gas explosion which occurred on 3 June 2024. In the event of extreme heats days and uncontrolled fires, leaking gas pipes are an unacceptable risk in our towns and suburbs. Friends of the Earth Melbourne is working to retire the gas distribution network across Victoria for the safety of the climate and communities living right on top of these pipes.

We also advocate strongly for all rentals across the state to meet minimum standards of insulation and thermal comfort. Our report, *Saving Rental Energy* offers practical policy advice to state and federal governments as well as providing simple, low-cost suggestions that renters (and anyone!) can use straight away to reduce their energy bills and ensure better efficiency in their homes.

Getting off gas, in conjunction with installing battery backed solar systems and improving the thermal efficiency of homes across the state will help households to increase their resilience in peak weather events and just be more comfortable and affordable to run overall.

### **The road from Gas Substitution to Gas Retirement**

The Victorian Government has been impressive in recognising the climate, health, economic and safety risks associated with fossil gas use across the state. The Victorian Gas Substitution Roadmap and its update recognise the impacts of gas on homes and businesses and proposes sensible reforms to reduce gas use in this, the most gas reliant state domestically in the country.

Capping gas abolishment fees, imposing connection costs for new gas connections and helping rental properties get off gas coupled with efficiency upgrades charts a coherent pathway from gas to cleaner, more sustainable energy options.

Inevitably, the low pressure gas distribution system must be retired. The ongoing leakage and health and safety implications of gas leaks present an unacceptable risk in a changing climate.

From an economic perspective, as more people switch from gas to renewable energy the pipeline system will be understood to be a stranded asset and set for retirement. We trust that this and following governments in Victoria will appreciate the importance of managing this process in a rapid, orderly and equitable manner.

### **Barriers to retiring the gas network for climate resilience**

Unfortunately, since the time that Kennett was Premier of Victoria the gas pipelines that supply homes and commercial buildings have been privatised and are now foreign owned. Retiring the gas distribution system will require careful negotiation.

High density housing such as the residential high rises in Docklands and the southern end of the Hoddle grid – as well as public housing high rises present challenges to energy efficiency upgrades.

Any further fossil fuel project approvals will both accelerate and be potential victims of climate change impacts. The high transmission power line damage during the high wind events in Gippsland in February 2024<sup>37</sup> was a demonstration of how increasingly severe climatic events can jeopardise infrastructure and call for a rethink of how we structure our energy systems. Insurance premiums for energy infrastructure will rise as these events increase in frequency and severity, compelling governments and energy providers to consider more localised, smaller scale energy networks like microgrids and virtual power plants.

High heat events present dangers for gas transmission through the high and low pressure distribution systems. Methane already leaks at around 3.8% across the low pressure distribution network. In high heat conditions this is likely to increase as the hotter weather causes gas to escape more readily from both the network up to the meter, at the meter and behind the meter into people's homes. The gas explosion in Whalan in June 2024<sup>38</sup> was a demonstration of the devastating impact of leaking gas in urban environments.

### **The planning system and retirement of the gas distribution network**

The Victorian planning system has undergone some significant improvements in recent years. Refusing new gas connections for developments under planning application is a powerful step forward, potentially undermined in part by allowing the construction of granny flats without planning permission.

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<sup>37</sup>

<https://www.abc.net.au/news/2024-02-15/south-gippsland-storm-rain-weather-mirboo-houses-destroyed/103464648>

<sup>38</sup>

<https://www.abc.net.au/news/2024-06-19/nsw-whalan-townhouse-explosion-caused-by-gas-sydney/103995644>

Rising sea levels and increasing inundation of coastal suburbs serviced by gas, particularly those suburbs serviced with old cast iron pipes presents a real risk of accelerated corrosion of these pipeline systems.

Therefore a critical next step for the Victorian Government is to plan for the orderly, equitable and rapid retirement of the gas distribution network, rather than investing any further in replacing old, corroding pipes.

### **What can be done better to prepare communities for climate impacts**

Ensuring that there are climate resilient shelters and community gathering places that are serviced by independent energy and water sources – and are totally gas free – will create a safe and well serviced location for communities in the event of extreme climate disaster events. Standalone battery boosted solar systems and in situ rainwater tanks along with thermal efficiency upgrades can be retrofitted to existing facilities like libraries, community halls and health centres.

To this end, identified climate disaster safe zones should be tested for thermal efficiency and assessed for suitability for installing solar, battery systems and rainwater collection points with those likely to service most impacted or the most densely populated areas prioritised for improvements to ensure that each of these centres can offer shelter during firestorm, high wind or other events that might lead to power grid or other utility failures.

Preparing to retire Victoria's gas processing facilities which are at risk in high heat and firestorm events would probably be wise to start now. And the pipeline system, as previously mentioned.

### **Further inquiries or investigation**

It may be that this is an area that warrants a standing committee in years to come as we increasingly need to review best state responses to the impacts of ever more disastrous peak climate events, occurring more frequently. This would create a central place of inquiry into the diversity of impacts of climate events across different sectors and regional or urban areas and better support a coordinated flow of information and government response to safeguard communities against future climate disasters.

### **Proposed Nuclear Power Infrastructure**

Prepared by the Nuclear Free Collective

### **The costs and delays of coal to nuclear proposals**

Peter Dutton's federal Coalition proposes introducing nuclear power to Australia, including in Victoria's LaTrobe Valley. The Coalition is targeting current and former coal power plant sites, hence the likely targeting of this region.

As CSIRO and the Australian Energy Market Operator have concluded, nuclear power is far more expensive than renewables, even when the storage and transmission costs associated with renewables are factored in.

Proposals to introduce nuclear power to Australia need to be seen in the context of the catastrophic cost overruns that have plagued reactor construction projects over the past decade in the US, the UK, France and elsewhere. The failure of these and other large reactor projects has led to increased efforts to develop small modular reactors (SMRs).

However, very few SMR projects have reached the construction stage. Multi-year delays and massive cost blowouts have afflicted SMR projects just as they afflict large reactor projects. There are only two operating SMR plants worldwide, and a few under construction. There is nothing 'modular' about any of those projects – the idea of modular mass production is pure fantasy.

Taxpayer subsidies amounting to tens of billions of dollars, perhaps hundreds of billions, would be required to establish a nuclear power industry in Australia. That would be the case whether small or large reactor technology was pursued.

Replacing coal plants with nuclear reactors could reduce nuclear costs by using some existing infrastructure at coal plants, but nuclear power would still be far more expensive than renewables. No coal power plants have been repurposed as nuclear plants in the US or the UK (or anywhere else to the best of our knowledge) so purported synergies and cost savings are speculative. All or nearly all of Australia's coal plants will be closed by the time nuclear reactors could begin supplying electricity in Australia, creating a major timing problem for coal-to-nuclear proposals.

Coal-to-nuclear proposals are not supported by the Victorian government or by state Labor governments in any of the four states with operating coal plants – nor are they supported by Liberal/LNP leaders in those states. Focus group research recently carried out in the Hunter Valley in NSW and the Latrobe Valley in Victoria found that voters are "hostile" to plans for reactors in their own areas. Private electricity generators – AGL Energy, Alinta, EnergyAustralia and Origin Energy – do not support the coal-to-nuclear proposal.

### **Risk of climate disasters damaging nuclear reactors**

Communities living near nuclear reactors can be hugely negatively impacted by having reactors (small or large) in their vicinity. First there is the risk of accidents which would be detrimental to surrounding communities and the environment. After the Chernobyl disaster, 350,000 people

were permanently evacuated. After the Fukushima disaster, 191,000 people evacuated and only a small percentage have returned to Fukushima Prefecture.

The impossibility of insuring against losses from a nuclear accident is a serious issue that targeted communities would need to grapple with.

No country has an operating repository for high-level waste from nuclear reactors, and therefore reactor sites are *de facto* nuclear waste dumps. Even after reactors are closed, the nuclear waste remains.

Nuclear power plants are vulnerable to threats which are being exacerbated by climate change. These include dwindling and warming water sources, sea-level rise, storm damage, drought, and jelly-fish swarms.

Nuclear engineer David Lochbaum states: "I've heard many nuclear proponents say that nuclear power is part of the solution to global warming. It needs to be reversed: You need to solve global warming for nuclear plants to survive."

Nuclear power plants are often built close to a water source as they need copious amounts of water to cool down the reactors and its waste. A single reactor requires about 50 million litres of cooling water each day.

Rising temperatures inhibit nuclear power plants from releasing their cooling waters into local waterways as the increased temperature would be detrimental to local ecosystems. For example, in the summer of 2022 when France experienced heatwaves, half of the country's reactors had to be turned off for weeks to months, due to the inability to release its cooling water.

Nuclear power and nuclear infrastructure will never be a viable and safe answer to the climate crisis. Not in Victoria, not anywhere. The current promotion of nuclear power by the Coalition has the potential to hinder and delay the transition away from fossil fuels. Many people believe that is the Coalition's intention. For example former Chief Scientist Dr. Alan Finkel states: "Any call to go directly from coal to nuclear is effectively a call to delay decarbonisation of our electricity system by 20 years."

**Submission end**

For further comment on this submission please contact:

