

# Exploring vulnerabilities: Recommendations Report

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## Executive summary

This report should be read along with the associated Desktop Review for this project. As in the desktop review, this report is divided into two parts. Part A covers recommendations related to at-risk communities and Part B covers recommendations related to at-risk business sectors. The Desktop Review identified that interventions are needed at multiple levels, thus both parts are structured to consider separately and holistically:

- Interventions at the level of individual people, families and households, and individual businesses
- Interventions at the level of communities and business sectors
- Interventions at the structural and societal level of the region and state.

### Recommendations to support at-risk communities

As identified in the desktop review, to protect at-risk communities from climate change impacts, interventions are needed at multiple levels. At-risk communities need multiple solutions, and back-up solutions, in order to be resilient to the impacts of climate change. This is equally relevant to an immediate shock, such as a heatwave, or long-term changes and stressors, and their flow-on effects, such as increasingly frequent hot weather and associated increases in violence. These solutions must go beyond individual personal preparedness, as this can only go so far to protect at-risk communities.

As identified in the desktop review, it is useful to think about at-risk individuals and communities as falling into one or both of these cohorts:

- Those who lack the knowledge to prepare themselves for climate change impacts.
- Those who lack the resources to prepare, and/or face systemic barriers over which they have little or no control, that make them highly vulnerable to climate change impacts, and which preparation can address partially at best.

The strategies for addressing these two kinds of vulnerability are different, and both kinds must be addressed in order to protect at-risk communities.

Addressing the first need – the need for knowledge – will at best lead to a level of personal preparedness that is a necessary but not sufficient factor for at-risk communities in adapting to climate change. Best practice community-based communications approaches will be needed to ensure these at-risk communities get the information they need and are able to apply it.

Addressing the second need – the need to break down systemic barriers – is largely the domain of community/sectoral and societal levels of interventions. However, it also reaches the individual level, for example enabling individuals and households to access climate-resilient homes as well as community cooler places as back-up protection.

To build the long-term resilience of at-risk communities, some key types of interventions will be needed:

- Supporting at-risk communities directly to enable their own responses
- Supporting the organisations that provide critical support to at-risk communities
- Supporting councils to support their communities
- Providing community cooler places

- Addressing underlying entrenched equity issues such as homelessness and inadequate housing
- Socialising the need for climate adaptation, preparedness and resilience
- Continuing and expanding on guidance and support for local government
- Improving short-term and emergency-response measures, especially to better accommodate and protect people with disabilities, newly arrived refugees and people experiencing homelessness
- Expanding research in this area.

## **Recommendations to support at-risk business sectors**

Awareness of and preparedness for climate impacts in at-risk business sectors in Greater Melbourne generally seems to be low, so raising the awareness and capacity of individual businesses as well as sectors as a whole will be important. To address climate risks to at-risk business sectors, several kinds of interventions will be needed:

- Integrating climate risk and adaptation into existing government programs that are aimed at individual businesses or business sectors will be key as there are many programs currently available to support businesses, especially in the wake of COVID-19, and it would be a missed opportunity not to use them to achieve adaptation benefits
- Funding programs that achieve both mitigation and adaptation in at-risk business sectors
- Prioritising at-risk sectors in all programs
- Building individual and sectoral capacity for climate adaptation planning and risk management, and for addressing Occupational Health and Safety in Melbourne's changing climate
- Unlocking renewable energy opportunities for business
- Expanding research in this area.

## **Background and methodology**

The Exploring Vulnerabilities project set out to explore the specific ways in which identified communities and business sectors in Greater Melbourne:

- Are currently experiencing climate change impacts and are at high risk of increasing impacts
- Are or are not prepared for and resilient to these impacts
- Are or are not adequately served by interventions in this area
- Could become better prepared and more resilient through more or different interventions.

The identified communities and business sectors were as follows over page.

#### At-risk communities

- Aboriginal and Torres Strait Islander communities
- Drug and alcohol users and smokers
- Newly arrived asylum seekers and refugees, newly arrived migrants, visitors and people with low proficiency or literacy in English
- Older people
- People who are homeless or in insecure housing
- People living in inadequate housing (especially social housing)
- People with disabilities and complex health needs and conditions, including mental illness
- Socioeconomically disadvantaged people and people experiencing financial hardship
- Women, single parents and children

#### At-risk business sectors

- Construction and other outdoor workers
- Health and social services sector
- Manufacturing
- Small-to-Medium Enterprises (SMEs)
- Tourism

The Desktop Review built on a 2018 Gap Analysis conducted by NAGA and encompassed:

- A literature review of relevant government, community, media and academic documents, (particularly those published since the gap analysis in early 2018)
- Semi-structured interviews with approximately 30 people working in peak bodies, networks and organisations within the community, government, business, and academic sectors
- Surveys of community organisations and businesses, distributed through peak bodies, local government, partner agencies and research participants
- Workshops and meetings with community organisations and businesses.

Building on the findings of the Desktop Review as well as the insights of a Project Advisory Group made up of representatives from VCOSS, NORTH Link and DELWP, workshops were then held in both the business and community sectors to:

- Build capacity in the sector around recognising and managing climate impacts
- Add to and validate the results of consultations included in the desktop review
- Inform the final suite of recommendations to be produced as part of this project (i.e. this document).

Findings from these workshops are included on pages 6 and 22 and in the Appendices of this report.

## PART A:

### Recommendations to support at-risk communities

As identified in the desktop review, to protect at-risk communities from climate change impacts, interventions are needed at multiple levels and at-risk communities need multiple strategies, and back-up strategies, to be resilient to both short-term and long-term climate change impacts.

#### Summary of insights gained from workshops

The series of three community sector workshops (Building Adaptive Communities) brought together practitioners from community service organisations and council workers who support at-risk communities in their day-to-day work as well as through strategy and advocacy. Through scenario planning, using an audit tool for their own organisations, and reflecting on their own needs and the needs of their sector, the participants articulated needs on all of these levels that have informed the recommendations in this report and often provided first-hand experience of issues identified in the desktop review.

#### Organisational and sectoral needs

- Individual workers need a better understanding of climate change impacts, tools to help them know how to respond, and peer support to share learnings and challenges.
- Individual workers need flexible work arrangements to look after their own health and the health of their families during extreme weather.
- Organisational leaders need to understand climate risk and how to govern this across their organisations.
- Organisations need template policies, tools, communications plans and materials and to understand what best practice looks like.
- Organisations need to build their capacity to engage effectively with at-risk communities.
- Organisations need to be networked more effectively with each other, and to build partnership with each other, including across sectors, such as community-based organisations having better connections with emergency management services.
- Organisations need tools for managing their own organizational climate risks, including OHS risks and effective emergency management systems.
- Organisations need to plan for increasing demand for their services.
- Organisations need training and induction for their staff and volunteers.
- Organisations need climate change adaptation champions in all key areas.

#### Needs of at-risk communities

- Access to financial support to help them make their homes comfortable
- Knowing where to get help, and help with navigating available support systems
- Greater understanding of climate change and the resulting impacts on their lives
- Resilient and safe housing that can cope with climate impacts
- Knowledge of what individuals and communities can do to prepare for climate impacts and what to do during climate events
- Vulnerable individuals need individual support to make individual plans for climate impacts

- Resilient, safe and inclusive community refuges to provide shelter from extreme weather including accessible emergency centres, including outside of business hours and in pandemic conditions
- Trees and green spaces for shade and cooler places during extreme heat
- Additional support for compounding impacts such as increases in family violence
- Flexible services in extreme weather
- Neighbourhood emergency planning

### **Higher-level needs**

- A proactive, strategic approach from all levels of government
- Accessible, resilient transport to get workers and community members where they need to be in extreme weather
- Staffing, resources, security, and funding to run refuges/cool spaces/neighbourhood safe spaces
- State programs that communicate climate change adaptation to make change easier at a local level
- More support for local government to fulfill the roles in adaptation outlined by the Victorian Government

### **Interventions at the individual level**

As identified in the desktop review, it is useful to think about at-risk individuals and communities as falling into one or both of these cohorts:

- Those who lack the knowledge to prepare themselves for climate change impacts.
- Those who lack the resources to prepare, and/or face systemic barriers over which they have little or no control, that make them highly vulnerable to climate change impacts, and which preparation can address partially at best.

Polling in the Building Adaptive Communities Workshop 2 indicated that community sector and council workers in attendance believed that the communities in which they worked were roughly evenly split between these categories (see Appendix 3).

The strategies for addressing these two kinds of vulnerability are different, and both kinds must be addressed in order to protect at-risk communities.

Addressing the first need – the need for knowledge – will at best lead to a level of personal preparedness that is a necessary but not sufficient factor for at-risk communities in adapting to climate change. Attention is needed to make sure that information on climate risks and impacts, and on personal preparedness for those risks and impacts, is reaching all at-risk communities.

The desktop review identified that some at-risk communities do not have access to the information they need to be prepared, and some communities, such as newly arrived refugees, are highly vulnerable due to their lack of knowledge of the Australian context amongst other factors.

Best practice community-based communications approaches will be needed to ensure these at-risk communities get the information they need and are able to apply it (see *Box 1: best practice community-based communications* over page).

Addressing the second need – the need to break down systemic barriers – is largely the domain of community/sectoral and societal levels of interventions, however, it is important to look at these from the perspective of the individual level as well. Climate-resilient housing, for example, may look, at the societal level, like programs and funding to improve the regulations around housing and the provision of improved social housing. At an individual level, this means individuals and families having the ability to retrofit their homes to make them more climate-resilient. It may also include other in-home solutions such as fans, evaporative coolers, and efficient split-systems.

In order for all Victorians to be protected from immediate climate change impacts, all Victorians need access to housing that is safe, comfortable and resilient to these impacts.

Social housing tenants often fall into multiple risk categories and have limited means of adaptation because their housing is largely outside their control. The Victorian Government could retrofit all social housing properties to make them more capable of providing adequate shelter during extreme weather. Installation of energy efficient split systems is already being done for people with specific medical needs. This could be extended first to all at-risk social housing tenants, and over time to all tenants. People in multiple risk categories should be prioritised first (such as older people in social housing in an urban hot spot).

As an interim measure while individual houses are being made more resilient – and realistically, as a long term measure as our climate becomes more inhospitable – all Victorians need to have safe places to go when the climatic conditions exceed the range in which their housing is safe – such as community cooler places (see *Box 2: Providing community cooler places*, page 8).

### *Box 1: Best practice community-based communications*

The Covid-19 pandemic has highlighted at a higher level what has long been known at the local level: that at-risk communities are best reached with community-based outreach. This approach includes:

- Context-specific and place-based information
- Multiple avenues of communication
- Accessible information in multiple languages
- Multiple media of communication (going beyond translated written materials and including videos, social media, and community-based means of communication)
- Use of trusted local sources that are embedded in local communities to distribute information (including community leaders, bilingual/bicultural workers, CSOs and local councils)
- Involvement of these local sources and community members in the development and testing of the information (see, for example Talking My Language project and Bendigo Community Health Service in the Desktop Review)
- Tailoring and distribution of needs-specific information, such as specific personal preparedness information for people with disabilities
- Understanding and addressing of trade-offs (e.g. between health, safety, cost etc)
- Pandemic conditions are factored in
- Careful consideration of timing, i.e. engagement activities for extreme heat begin before summer (but not too early) and are booked in with community groups ahead of time.

<b>A1. Recommendations at the individual level</b>		
<b>Recommendations</b>	<b>Target audience</b>	<b>Who can support and how</b>
<p><b>A1.1 Continue and expand information provision for individuals, households and families on seasonal preparedness and managing climate impacts.</b></p> <ul style="list-style-type: none"> <li>• A1.1.1 Roll out targeted communications programs using a best-practice community-based approach (see <i>Box 1: Best practice-community based communications</i>)</li> <li>• A1.1.2 Roll out specific capacity building programs to enable individuals and households to take control over their home environment and energy bills. (See Desktop Review for Power Changer and Green Town models).</li> </ul>	<p>Unaware/ Unprepared at-risk individuals and households</p>	<ul style="list-style-type: none"> <li>• Delivery - CSOs and Councils</li> <li>• Guidance and support - Victorian Government with sectoral and regional partners</li> <li>• Funding – Victorian Government, philanthropic funds</li> </ul>
<p><b>A1.2 Enable and invest in in-home solutions for individuals, households and families to manage climate impacts.</b></p> <ul style="list-style-type: none"> <li>• A1.2.1 Invest in retrofit programs and upgrading heating/cooling solutions through trusted local organisations (see for example <a href="#">Green Town</a>, council Home and Community Care services) for at-risk communities in private housing.</li> <li>• A1.2.2 Assess and upgrade existing social housing properties, with high-risk households given first priority, to reach a minimum level of thermal comfort.</li> <li>• A1.2.3 Review, expand and fast-track the installation of efficient split-systems for existing social housing stock, with high-risk households given first priority. Include capacity building alongside the roll-out as per 1.1.2 above to ensure efficient use and avoid bill-shock.</li> <li>• A1.2.4 Expand the <a href="#">Medical Cooling Concession</a> to other at-risk communities such as people with a disability, older people, families with young children, low-income households and so on.</li> </ul>	<p>Aware and prepared but vulnerable households</p>	<ul style="list-style-type: none"> <li>• A1.2.1 as above</li> <li>• A1.2.2 and A1.2.3 – Department of Health, using partnerships with community health providers and other CSOs for communications and capacity building activities.</li> </ul>

## **Interventions at the community and sectoral level**

To go beyond individual personal preparedness and increase community resilience, strategies and support are needed for supporting at-risk communities both directly and through supporting organisations.

### ***Supporting at-risk communities directly***

Government and non-government organisations can play a role in enabling communities to increase their own preparedness for and resilience to climate impacts. One of the key ways they can do this is to provide easy access to funding and support for:

- Empowering communities with their own resources to meet their own needs and realise their own ideas (see for example In Your Patch in the Desktop review)
- Bolstering and making best use of community connectedness
- Upskilling community members to improve the energy efficiency of their own and their neighbour's homes (see for example Green Town in the Desktop review)
- Creating multiple community-level solutions and resources, including physical spaces that provide protection from climate impacts (bearing in mind that increasing the diversity and redundancy of solutions increases resilience)
- Enabling communities to plan for their own resilience to disasters and other climate impacts, [as Tarnagulla has done recently](#).<sup>1</sup>

This should be broad-based and easy to access with simple administration and reporting requirements. Recipients should be grass-roots community groups, clubs, tenants associations, neighbourhood houses and the like.

Funding of this nature could be administered by councils, by community organisations or directly by the Victorian Government. Support for these projects may need to go beyond funding for communities and groups where there isn't sufficient existing social or organisational infrastructure to support projects or planning initiatives. Again councils or community organisations could be funded to provide support in the form of administrative and project management support, capacity building and mentoring, and so on. In other cases grass-roots organisations will already be set up to provide this but will still need funding in order to dedicate time and staff to additional projects.

### ***Supporting the sector: organisations that support at-risk communities***

Building the capacity of supporting organisations in the community sector (i.e. Community Service Organisations) could help them to realise their potential not only as the 'shock absorbers' for climate impacts on at-risk communities but as community resources and supports for building climate resilience and preparedness. Time and time again throughout this project, the importance of this sector has been emphasised, and the key barrier that is holding them back from realising their potential in this space is a lack of resources, funding, time and capacity. They are already stretched thin in terms of providing essential services, and have been operating in this mode for a long time, which has not led to good long-term planning.

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<sup>1</sup> Note: where sources have not been referred to in the Desktop Review, links are provided.

One of the ways in which capacity in the sector can be built is by sharing the learning of organisations that have already done a lot of successful work in this area through communities of practice, conferences, webinars and so on. A specific example uncovered by the Desktop Review is the Bendigo Community Health Service (BCHS), who would be a valuable source of information in a state-wide forum for agencies that support refugee communities. Currently there is a refugee health service network but their learning could benefit organisations beyond that. Due to the hard work of their employees, Bendigo Community Health Services has a great deal of experience and knowledge in helping refugees adapt to climate impacts, however, their funding is ad hoc, and therefore their ability to provide specific adaptation support is ad hoc. Clearly there is a strong need for more support for refugee communities to help them overcome the barriers they face in coming to grips with Australia's changing climate. Supporting BCHS to consolidate and share their award-winning work could benefit refugee communities in Greater Melbourne and elsewhere, and reduce their vulnerability to climate change impacts.

Training and resources are also needed to enable CSOs and councils to develop holistic outreach and support strategies for at-risk communities, including communications and public health messaging around awareness and preparedness, as well as engaging to finding out what communities need and seeking their feedback on the services they use and how they could be adapted. This would include training to help staff better understand at-risk communities.

It is also important that CSOs understand climate risk to their organisations through training for leaders, CEOs and boards in the community sector in understanding and managing climate risks.

### ***Supporting councils to support municipalities***

Many of the types of interventions discussed above and listed below in **A2**.

***Recommendations at the community and sectoral level*** could also help to build the capacity of councils to support their municipalities, particularly at-risk communities. This could be done either on a sectoral basis, or on a geographic basis and combined with CSOs in the same geographic area as this overlaps with a capacity building action for CSOs (A2.2.5), or some combination of these to enhance collaboration and minimise duplication of effort.

Councils also have particular capabilities that could be supported. Councils have, for example, significant capacity to increase urban greening to reduce the urban heat island effect.

### ***Providing community cooler places***

One of the issues that has come up numerous times in this project is a need for a variety of safe, free, culturally appropriate places where people can seek shelter during extreme weather (including during pandemic conditions). Most often these are framed as 'cooler places' or 'heat havens' but there is also a need for community spaces that are safe and comfortable during very cold weather, during times of poor air quality and smoky conditions, during thunderstorm asthma conditions and in times of disasters.

Again diversity and redundancy of solutions would promote greater resilience, and can better accommodate the diverse needs of those most at risk, thus the benefit of a variety of spaces.

This variety could include, for example:

- Variation in size from small and micro scale neighbourhood spaces (e.g. neighbourhood houses) to medium sized spaces (e.g. libraries) to large facilities for (e.g. requisitioning town halls in times of need).
- Providing separate facilities for specific needs such as covid-safe spaces (e.g. for at-risk community members during 'Covid Safe Summer' level conditions, and for people in general during lockdowns or high levels of restrictions); accessible and supported spaces for people with disabilities and older people; spaces just for women and children.
- Spaces that can remain open at all times of the day, including secure places that are staffed overnight.
- Spaces that can accommodate pets.
- Places that are highly accessible by public transport, and/or are serviced by specialised shuttle services for people who have difficulty accessing or reaching public transport.

<b>A2. Recommendations at the community and sectoral level</b>		
<b>Recommendations</b>	<b>Target audience</b>	<b>Who can support and how</b>
<p><b>A2.1 Supporting at-risk communities directly</b></p> <ul style="list-style-type: none"> <li>Empower communities and neighbourhoods to meet their own needs and realise their own ideas to manage climate impacts, to bolster community connectedness, to build adaptive capacity and to create multiple community-level solutions and resources, including physical spaces that provide protection from climate impacts, to plan for their own resilience to disasters and other climate impacts.</li> </ul>	At-risk communities (grass-roots groups)	<ul style="list-style-type: none"> <li>Delivery partnership, auspicing and mentoring – CSOs, councils</li> <li>Funding – Victorian Government and Local Government</li> </ul>
<p><b>A2.2 Support organisations to support at-risk communities</b></p> <ul style="list-style-type: none"> <li>A2.2.1 Provide funding linked to performance measures on adaptation and support of at-risk communities. This may require the collaboration of multiple levels of government and multiple government departments and other agencies.</li> <li>A2.2.2 Provide training for leaders, CEOs and boards in the community sector in understanding and managing climate risks to organisations and to at-risk communities.</li> <li>A2.2.3 Provide training for staff in understanding and managing climate risks to organisations.</li> <li>A2.2.4 Share learning of organisations that have already done a lot of successful work in this area through communities of practice, conferences, webinars etc.</li> <li>A2.2.5 Create specific initiatives to increase employment and inclusion of at-risk community members in CSOs and councils .</li> <li>A2.2.6 Provide training and resources to enable CSOs to:               <ul style="list-style-type: none"> <li>Develop holistic outreach and support strategies for at-risk communities, including communications as per A1.1.1</li> <li>Engage with local at-risk communities to find out what they need and seek their feedback on the services they use and how they could be adapted.</li> <li>Better understand at-risk communities (e.g. disability awareness training, cross-cultural training, understanding the refugee experience, applying a gender lens, preventing violence etc) through a climate adaptation lens. (See also A.2.3.1.)</li> <li>Monitor and evaluate the impact of adaptation initiatives.</li> </ul> </li> </ul>	CSOs	<ul style="list-style-type: none"> <li>A2.2.1-A2.2.9               <ul style="list-style-type: none"> <li>Delivery – CSOs</li> <li>Funding, guidance, resources – Victorian Government</li> </ul> </li> <li>A2.2.10 Victorian government facilitating and funding in partnership with agencies, peak bodies, associations etc in health and social services sector.</li> <li>A2.2.11-12 Victorian Government including Department of Health, Department of Fairness, Families and Housing, DELWP – policy and guidance.</li> </ul>

<ul style="list-style-type: none"> <li>• A2.2.7 Provide specific funding and support to develop plans and strategies for:             <ul style="list-style-type: none"> <li>○ Organisational adaptation and</li> <li>○ Supporting at-risk communities in partnership with those communities.</li> </ul> </li> <li>• A2.2.8 Provide support for urban agriculture and local food systems to combat food insecurity that will be exacerbated by climate change.</li> <li>• A2.2.9 Provide grants to work with communities to specifically identify strengths and risks, and proactively work to become climate-resilient – this could potentially be combined with 2.2.1.</li> <li>• A2.2.10 Enable sectoral scenario planning to develop effective responses to climate risks and impacts through a funded and facilitated process.</li> <li>• A2.2.11 Provide advice to improve heat health and heatwave planning – as per the Hotspots Evaluation – heat health planning could be more informed by place-based local knowledge, cross-sectoral collaboration and a more bottom-up approach.</li> <li>• A2.2.12 Expand the Health and Human Services Climate Change Adaptation Action Plan to better include CSOs.</li> </ul>		
<p><b>A2.3 Support councils to support at-risk communities</b></p> <ul style="list-style-type: none"> <li>• A2.3.1 Provide training and resources to enable councils to             <ul style="list-style-type: none"> <li>○ Develop holistic outreach and support strategies for at-risk communities, including communications as per A1.1.1</li> <li>○ Engage with local at-risk communities to find out what they need and seek their feedback on the services they use and how they could be adapted.</li> <li>○ Better understand at-risk communities (e.g. disability awareness training, cross-cultural training, understanding the refugee experience, applying a gender lens, preventing violence etc) through a climate adaptation lens.</li> </ul> </li> <li>• A2.3.2 Work together on specific interventions to remove barriers to urban greening and accelerate progress.</li> <li>• A2.3.3 Review and update the <i>Heatwave Planning Guide: Development of heatwave plans in local councils in Victoria</i>.</li> </ul>	<p>Councils</p>	<ul style="list-style-type: none"> <li>• A2.3.1 Victorian Government in partnership with Greenhouse Alliances, MAV</li> <li>• A2.3.2 Local and Victorian Government</li> <li>• A2.3.3 DH in partnership with DELWP, Greenhouse Alliances, health and social services sector peak bodies and associations, councils</li> </ul>

<p><b>A2.4 Provide community cooler places</b></p> <ul style="list-style-type: none"> <li>• Explore options and prepare to open community facilities outside of normal hours to provide emergency shelter during heatwaves, cold snaps, storms etc (such as libraries, pools, town halls etc) and ensure that pandemic conditions are factored into this planning. Incorporate policies and procedures into heat health plans and address transport needs (e.g. provide shuttle buses on days of extreme heat for highly vulnerable residents), children, pets etc</li> <li>• Enable a variety of small-scale, neighbourhood cooler places.</li> </ul>	<p>At-risk communities</p>	<ul style="list-style-type: none"> <li>• Delivery and communications – councils, CSOs</li> <li>• Guidance and support - Victorian Government with sectoral and regional partners</li> <li>• Funding for additional services – Victorian and Local Government</li> </ul>
<p><b>A2.5 Provide a broad-based grants program to build adaptive communities</b></p> <p>Continue/expand the 3CA grants or create a new broad-based grants program aiming at multiple benefits (adaptation, health, equity) and include several specific streams for councils and CSOs to:</p> <ul style="list-style-type: none"> <li>• Build their capacity to support at-risk communities</li> <li>• Develop community-based plans for building the resilience of specific at-risk communities</li> <li>• Provide cooler places</li> <li>• Build community connectedness</li> </ul> <p>(This action could incorporate several of the actions under A2.2, A2.3, A2.4.)</p>		<p>DELWP in partnership with DH, DFFH</p>

## **Interventions at the structural/‘big picture’ level**

A clear direction from both the literature and interviews was that in order for individual preparedness and community responses to be effective, a supportive policy environment is needed at the state and regional level, and the ‘big picture’ issues need to be addressed.

A distinction that was highlighted by people working in this area was that of short-term ‘patches’ which can best be seen as belonging to the sphere of emergency management, versus long term adaptation and resilience building. Both are important but the two should not be confused, and in particular, emergency solutions should not be seen as sufficient.

If sufficient funding and resources are put into preventative actions – into breaking down structural barriers and building long-term resilience – this should reduce the need for stop-gap and emergency measures.

A good illustration of this distinction is in the issue of climate-related risks to people experiencing homelessness. The Hotels Initiative could provide a blueprint for getting people off the streets and into temporary accommodation during public health crises – be these pandemic-related or related to extreme weather or disasters – however this should not be seen as an alternative to providing long-term housing for people. It is, rather, a temporary, stop-gap emergency measure to try to stop people from dying or becoming extremely ill. It is also useful in providing a transition to long-term accommodation, which must be the long term strategy if we are to prevent climate-related deaths due to the exposure of homeless people to extreme weather. It will therefore be important to include a commitment to using these types of emergency measures to create longer term outcomes. That is, getting people off the streets and into long-term housing.

## ***Recommended long-term resilience building and adaptation actions***

Some of the kinds of interventions suggested by the Desktop Review include:

- Supporting sectoral activities by offering guidance and support to ensure that the governance environment in the community sector embeds the need to manage climate risks
- Tightening feedback loops from local communities to the regional and state level - for example use the information gained from local government consultation processes to assess effectiveness of state and regional interventions
- Address underlying entrenched equity issues including
  - Homelessness
    - As of January 2020 it was estimated that 24,000-25,000 Victorians did not have a home. This number may have changed since the beginning COVID-19 pandemic. The Big Housing Build, announced in 2020, promises to build “12,000+” new homes, and this may be less than what is needed. Homeless services also need more support to do the work of getting people experiencing homelessness into long-term housing. Until all Victorians have a home, there will be a portion of our population facing very high risks from climate change.
  - The inadequacy of social and rental housing in Victoria:
    - New funding for social housing in Victoria factors in the need for climate-resilient buildings, including individual dwellings and community spaces that provide adequate protection from extreme weather by virtue of good design, insulation, solar power, energy efficiency etc. The emphasis

should be on minimising the need for electric heating and cooling, but still providing this to allow tenants to be safe and comfortable during extreme weather. (See also, for example: [Barnett 2013](#) for specific recommendations). The Big Housing Build includes a commitment to a minimum 5-star-rating using the Green Building Council of Australia's Green Star rating system and an average Nationwide House Energy Rating Scheme (NatHERS) rating of at least 7 stars. This is an excellent start and to be applauded, however a minimum NatHERS rating of 8 stars would be more beneficial and in line with Infrastructure Victoria recommendations for 2025, as would a program to assess properties' performance against these ratings over time, as both of these systems model the performance of buildings, and cannot necessarily predict the lived experience of occupants with complete accuracy.

- The private rental industry is regulated to ensure minimum standards of thermal comfort and safety, again emphasising good design, insulation and other energy efficiency measures for new builds, and also ensuring appropriate heating and cooling is available.
- The need for preventative health funding in under-served and at risk communities including for:
  - Climate health literacy
  - Prevention of family violence
  - Prevention of problematic use of alcohol and other drugs
  - Support for refugee communities and settlement services

### ***Socialising the need for climate adaptation, preparedness and resilience***

Something that was raised by many interviewees and workshop participants was that people generally, and at-risk communities in particular, often have only very vague ideas about what climate impacts are and how they might be affected, let alone what they might do to protect themselves, their families or their communities from them. Recent [research by Sustainability Victoria](#) showed that Victorians have not yet made the link between climate change and impacts on their own health, yet when presented with evidence on this, people readily accept the link, think it is important and want to know more. Given the relatively low level of awareness and preparedness broadly amongst Victorians, and this new research, there may be merit in a broad-based campaign to raise Victorians' health literacy around climate change risks and impacts (similar to TAC and work safety advertising campaigns). This could socialise the need for personal preparedness and community preparedness and communicate what is being done at the state level, which could help at-risk communities both directly and indirectly. This could also help to build support for climate action in general. Importantly, this kind of high-level, broad-based campaign may not reach all at-risk communities, which highlights the importance of community-based communication strategies in addition to – and probably prioritised before – these kinds of measures (see *Box 1: Best-practice community-based communications*).

### ***Continuing and expanding on guidance for local government***

The Desktop Review indicated that recent guidance for councils on the need to manage climate risk is having an effect. Some council staff however have explained that there is a need for more detail, more practical advice, and more explicit expectations around, for example, exactly what is required to be addressed in Municipal Health and Wellbeing Plans, Council Plans, Risk Plans and Emergency Management Plans. Specific guidance highlighting the need for councils to manage climate risks to at-risk communities may help to broaden councils' views of what climate risk management means and why it is relevant to many areas of council service delivery.

Good risk management planning can unlock investment in infrastructure and long-term solutions by highlighting the long-term risks and costs of inadequate action and risk management. Council officers also believe that when their leaders truly “get” climate risks, embedding adaptation across councils will be accelerated and enabled. Smaller councils in particular struggle with resourcing long-term planning and capacity building and may need additional support.

### ***Recommendations for short-term and emergency-response measures***

- There is a need to provide emergency accommodation at the scale of the Hotels Initiative during the COVID-19 pandemic to house homeless people during extreme weather and dangerous climatic conditions. This should also help to transition people into long-term accommodation.
- Emergency management and recovery planning needs to factor in disability access as well as pandemic conditions. The Queensland Government commissioned a report that provides a range of recommendations for better managing risks to people with a disability in a disaster and emergency management context (Disability-Inclusive Disaster Risk Reduction (DIDRR) Framework and Toolkit). Some of these include:
  - Ensuring that people with disabilities, disability services, carers and community service organisations are included in emergency management planning so that the needs of people with disabilities and their supports are understood and addressed. There are existing frameworks (such as in the Queensland government document) that outline how people with disabilities can be included effectively in these processes. This was supported by the interviews undertaken as part of this project. Workers in the area of homelessness similarly emphasised that we need more than “just the usual agencies involved in emergency management” to be part of this conversation.
  - Making sure that specific information on emergency preparedness tailored to people with disabilities reaches people with disabilities.
  - Using available research, data and evidence about the needs of people with disabilities to inform emergency management – this is particularly important for people with disabilities who live independently and are not connected to disability or other community services, as their needs may be less well reflected in engagement processes.
- It would be valuable to bring together all agencies involved in supporting at-risk communities during emergencies and extreme weather to undertake scenario planning for climate risks and impacts. Importantly this needs to take account of the

possibility for multiple simultaneous crises, such as pandemic conditions and restrictions being in place at the same time as a climate-related crisis such as a heatwave or bushfire. The COVID-19 pandemic is a good illustration of the ways in which crises expose the fragilities and inequities of our systems and test their resilience. Several workers in this area also brought up the possibility of much longer heatwaves, and how these may cross a tipping point in terms of the resilience of individuals, communities and our systems. Scenario planning has the benefit of helping decision makers and workers to model and test the impacts of events that we haven't yet experienced and put plans in place to be able to manage them if and when they do occur.

### **Expanding research in this area**

One of the questions considered through this project was: Is there a need for more research, or do we already know what we need to do? In particular, this project did not attempt an exhaustive or fine-grained analysis of current impacts, vulnerabilities, and possible interventions, and it did not speak directly to at-risk communities or businesses, but rather relied on support organisations.

One possible answer to this question is:

- Yes, it would be beneficial to know more in order to make sure our responses are as informed and appropriate as possible, and
- Yes, we do already know some of what we need to do and therefore we shouldn't wait for more information *before acting*. Rather we should ensure that where research is needed to design specific interventions, this is supported, and that data is continuously collected *while we act* and used to improve interventions, and that wherever research is supported, it should be in support of and informing action.

3CA grants recipients, have provided some illustrative examples of what specific kinds of research and data collection might be beneficial. Jesuit Social Services reported finding:

*“... an outstanding need for specific local evidence of the social impacts of climate change, and more research on the definition and mapping of vulnerability, so that CSOs can more clearly understand and plan appropriate responses to climate change impacts.*

*An evidence base that provides accessible, reliable data and information about how climate change is, or is likely to, impact community wellbeing is much needed to enable wide-spread community climate change adaptation. Investing resources into research that creates a shared set of data of up-to-date information on the social and compounding impacts.”*

Similarly some Councils reported that they already had mapped, or intended to map, vulnerability of various kinds in their municipalities to better target local investment.

The Hotspots Evaluation reported on the need for data in several areas, for example:

- “Collecting data on the rates of heat related illness would be an important way to make visible the risks associated with heat for different cohorts. This data could then be used

to design and inform programs and to raise awareness around heat related health risks. Relevant data from Ambulance Victoria may be available”

- “Updating of Monash’s heat vulnerability index analyses could help identify other ‘hot spots’” for future focus
- Continuing to gather “evidence of the impact of Hotspots work... would be invaluable... experiential stories and ... Developing deep understandings of peoples’ lived experience helps provide a strong evidence base for improving community resilience building strategies including practical interventions and to inform advocacy for systemic change.”

Building strong evaluation components into expanding and new interventions would be one way of continuing to build knowledge in this area and to monitor the relevant success of different approaches.

<b>A3. Recommendations at the structural/societal level</b>		
<b>Recommendations</b>	<b>Target audience</b>	<b>Who can support and how</b>
<p><b>A3.1 Strengthen adaptation governance</b></p> <ul style="list-style-type: none"> <li>• 3.1.1 Incorporate the risks and costs of climate vulnerability into all relevant funding considerations (e.g. for preventative health and wellbeing measures, community resilience building, climate mitigation measures etc)</li> <li>• 3.1.3 Advocate to the federal government for adaptation funding in sectors governed nationally (e.g. aged care).</li> <li>• 3.1.4 Build on the recent advice to local government and provide more detail, more practical advice, and more explicit expectations around, for example, exactly what is required to be addressed in Municipal Health and Wellbeing Plans, Risk Plans and Emergency Management Plans, and what would be beneficial to incorporate into Council Plans.</li> </ul>	<p>At-risk communities</p> <p>Federal government</p> <p>Local government</p>	<p>Victorian Government: funding prioritisation, advocacy and provision of advice</p>
<p><b>A3.2 Address housing needs of at-risk communities</b></p> <ul style="list-style-type: none"> <li>• A3.2.1 Provide housing for homeless people and support to organisations who work with the homeless to help them into accommodation.</li> <li>• A3.2.2 Improve the quality and thermal and environmental performance of existing social housing.</li> <li>• A3.2.3 Expand funding for building new social housing in Victoria and ensure these are climate-resilient buildings, including both in terms of individual dwellings and community spaces that provide adequate protection from extreme weather.</li> <li>• A3.1.4. Improve the quality and thermal and environmental performance of existing rental housing by ensuring the private rental industry is regulated to ensure minimum standards of thermal comfort and safety, again emphasising good design, insulation and other energy efficiency measures for new builds, and also ensuring appropriate heating and cooling is available.</li> </ul>	<p>People without adequate housing</p>	<p>DFFH - funding and program roll-out, regulations</p>



## PART B:

### Recommendations to support at-risk business sectors

As with at-risk communities, to address the vulnerabilities of business sectors that are especially at risk from climate change impacts, action will be needed on multiple levels. Raising the awareness and preparedness of individual businesses is one piece of the puzzle; building the capacity across each at-risk sector is another; and ensuring the state policy environment and funding supports business adaptation is the third.

#### Summary of insights gained from webinar

The business webinar was much more of a one-way capacity building exercise than the community sector workshops, due to guidance from NORTH Link that businesses would be unlikely to attend for more than an hour and most value hearing from other businesses. This means that businesses did not give feedback directly on their needs, however, they did indicate through live polling during the session what their experience and awareness of climate impacts was like.

- A large majority of participants, for example, indicated that they had noticed cooling needs and electricity costs had gone up at least 'a bit' in the last five years.
- All respondents said that extreme heat caused their workers to be stressed or uncomfortable at least occasionally.
- More than 80% said that extreme heat had at least occasionally made it difficult for customers to access their business.
- More than half were aware of their supply chain having been impacted by climatic events.
- Nearly two thirds thought that their business was being, or would be, impacted by climate change 'a lot'.
- Less than a quarter felt their businesses were well prepared for these impacts, but over 75% felt they had taken at least 'a few' steps to prepare.

(For more detail see Appendix 1.)

#### Interventions at the individual business level

Awareness of and preparedness for climate impacts in at-risk business sectors in Greater Melbourne generally seems to be low, so raising the awareness and capacity of individual businesses is important, especially for sectors such as SMEs that tend to have lower capacity than other sectors.

#### *Integrating climate risk into existing government programs*

There are many existing capacity building programs, grants, rebates and other programs aimed at individual businesses run by local and state government. There is potential for many of these to explicitly address climate risks and impacts, and build climate adaptation into the content, eligibility or prioritisation criteria.

Local government economic development policies, programs and offerings could explicitly address climate risk and adaptation. Many funding programs have been created in the wake of the COVID-19 pandemic and restrictions, including, for example, programs to increase businesses digital literacy and help them to move more of their business online. This can

have multiple climate adaptation benefits, and these could be highlighted as additional motivating factors and selling points for business, e.g.:

- Increasing online and delivery services for customers has benefits when accessing retail outlets is difficult – whether because of pandemic conditions or climatic conditions.
- Increasing digitisation of records is a useful strategy for disaster preparedness, as paper-based records systems are at risk from extreme weather and disasters.

Similarly grants available to businesses for improving outdoor dining and retail opportunities (e.g. the Melbourne City Recovery Fund and Outdoor Eating and Entertainment Package to help CBD hospitality businesses make physical improvements to the streetscape and outdoor dining areas), could place a greater emphasis on greening, shading and water sensitive urban design to mitigate against urban heat.

### ***Funding programs that achieve both mitigation and adaptation in at-risk business sectors***

Local and state government programs aimed at individual businesses that have proven successful in generating multiple benefits (e.g. climate mitigation, waste reduction, economic benefits) including adaptation benefits should be expanded, and at-risk business sectors should be prioritised. Increased funding for renewable energy and energy efficiency programs, for example, would have at least three benefits (i.e. mitigation, adaptation and cost saving).



## Interventions at the sectoral level

### ***Building sectoral capacity for climate adaptation***

There is a lack of specific capacity building for climate adaptation for businesses and for at-risk sectors, and a sectoral approach could be used to address this. Regional bodies, peak bodies and business networks and associations would be well-placed to deliver, or partner with government agencies to deliver, sector-specific training and information distribution on climate risks and impacts and their implications for businesses and across at-risk sectors.

### ***Sectoral adaptation planning***

There is opportunity for the Victorian government to catalyse and support sector-level adaptation planning for at-risk industries. The Victorian Government could partner with industry bodies and associations in at-risk sectors to provide guidance around climate risk management and planning (see for example the [Queensland Government's Adaptation Plan for SMEs](#)) in addition to the seven sectors identified for specific sectoral adaptation plans (water, transportation, built environment, natural environment, health and human services, education and training, and primary production). These could be expanded to include further at-risk business sectors beyond – either as individual sectors or as a collective of at-risk sectors. As identified by the 2018 gap analysis and the Desktop Review, the following sectors are considered high-risk and should be considered for inclusion:

- Construction and other outdoor workers (including people working in gardening and horticulture, revegetation, trades and maintenance, forestry, fishing and extractive industries – some of these might fit more readily with agriculture and primary production)
- Manufacturing
- Small-to-medium sized businesses (see above, and the Desktop Review, on the adaptation planning the Queensland government has done with SMEs and tourism operations)
- Tourism and hospitality.

The primary production adaptation plan could be used as a pilot for this process, and the education and training sector would also be closely linked. This could also incorporate legal responsibilities and duty of care analogous to the guidance released in 2020 for local government.

<b>B2. Recommendations at the sectoral level</b>		
<b>Recommendations</b>	<b>Target audience</b>	<b>Who can support and how</b>
<p><b>B2.1 Build sectoral capacity for climate risk management and adaptation planning</b></p> <ul style="list-style-type: none"> <li>• B2.1.1 Provide sector-specific training and information distribution on climate risks and impacts and their implications for businesses and across at-risk sectors, including:               <ul style="list-style-type: none"> <li>○ Managing climate-related risks, legal liability and navigating insurance</li> <li>○ Occupational health and safety in a changing climate</li> <li>○ The advantages of online business in a changing climate and how to transition smoothly</li> <li>○ Managing energy needs (including investing in on-site energy production, energy efficiency, efficient operations)</li> <li>○ Resilience planning and planning for disruptions and economic shocks</li> <li>○ Managing and diversifying supply chains in a changing climate</li> <li>○ Managing productivity in a changing climate</li> <li>○ Understanding transitional impacts: changes to markets, regulations and technologies</li> <li>○ Specific transitional training for sectors experiencing a high degree of change.</li> </ul> </li> <li>• B2.1.2 Support sector-level adaptation planning for at-risk industries.</li> </ul>	<p>Unaware/ Unprepared businesses and at-risk business sectors</p>	<p>Business Victoria, DELWP in collaboration with potential partners for development and delivery (e.g. business associations, networks and peak bodies, Greenhouse alliances)</p> <p>Victorian Government – provide guidance, facilitation and funding</p>
<p><b>B2.2 Address climate-related OHS impacts at the sectoral level</b></p> <ul style="list-style-type: none"> <li>• B2.1.2 Integrate climate impacts and risks into organisational and industry OHS training</li> <li>• B2.1.3 Bring together industry associations and unions in at-risk sectors to consider broad-scale changes to work planning and guidelines to adapt to Melbourne’s changing climate, such as:               <ul style="list-style-type: none"> <li>○ Consistent guidelines around working hours for outdoor and factory workers - specifically for hot weather, or potentially for all of summer</li> <li>○ Guidelines around bushfire smoke, PPE and working conditions</li> <li>○ Addressing the mental health impacts of climate change (especially for workers in the health and human services sector, emergency management agencies, agriculture and tourism).</li> </ul> </li> </ul>	<p>At-risk business sectors</p>	<p>WorkSafe Victoria in partnership with unions and industry associations</p>

## Interventions at the structural/'big picture' level

### *Occupational health and safety*

Workforce risks around productivity and occupational health and safety cut across all sectors, as do OHS legislation and systems. Given the long history of capacity building in occupational health and safety and the current effectiveness and traction of this area of business management, and the risks posed by climate change to OHS, this seems like an area of opportunity.

There could be several beneficial roles the Victorian Government could play.

- Consider creating a broad-based awareness raising campaign (similar to TAC and work safety advertising campaigns) to socialise the need for planning and risk management around climate impacts to industry and workers, especially in at-risk sectors, and especially in the context of a Melbourne climate that is getting hotter and drier where extreme weather of all kinds is becoming more common.
- Worksafe Victoria could review OHS regulations in consultation with industry bodies and unions to ensure they adequately cover climate risks and extreme weather in an efficient way, and integrate climate risk messaging. It could then bring together unions, employers and industry bodies in key sectors facing climate-related OHS risks (such as manufacturing, construction and outdoor workers) to look at key identified risks and identify best practice risk management that can be incorporated into OHS policies and procedures and risk management plans, as well as feeding recommendations back to industry for systemic ways of managing these risks in the context of a changing climate (such as changing expectations around seasonal and weather-related working hours and practices, better equipping workplaces for thermal comfort, including through investment in energy efficiency and renewable energy). Particular attention should be paid to workers who fall into additional categories of risk, such as older workers and workers with chronic health issues, and young and inexperienced workers. Strong messaging around OHS would be especially beneficial in this area to overcome cultural issues identified as being risk factors in heat-related injuries and illnesses, especially in male-dominated workplaces, such as not wanting to appear weak, being afraid to ask for help, not wanting to admit to a lack of knowledge or experience.
- The pilot adaptation action plan for health and human services, and for primary production, and future iterations of these plans, may provide insights around OHS as one of the at-risk business sectors.
- Work with industry associations, regional bodies and peak bodies to integrate climate-related OHS risks within sectoral supporting systems such as:
  - Integrating climate impacts and risks into organisational and industry OHS training
  - Creating consistent guidelines around working hours for outdoor and factory workers - specifically for hot weather, or potentially for all of summer
  - Creating guidelines around bushfire smoke, PPE and working conditions
  - Addressing the mental health impacts of climate change (especially for workers in the health and human services sector, emergency management agencies, agriculture and tourism).

### ***Unlocking renewable energy opportunities for business***

There are multiple regulatory, policy and infrastructure barriers that constrain the efficient supply energy, which is a key enabler of high-energy sectors such as manufacturing. While perverse outcomes in terms of increased industry emissions must be avoided, the Victorian Government can play a role in unlocking the potential of new technologies, renewable energy and energy storage through investment in a more efficient power grid (see Heatwaves in Victoria: A Vulnerability Assessment for a detailed breakdown of cross-sectoral barriers).

### ***Funding programs that achieve both mitigation and adaptation in at-risk business sectors***

Local and state government programs aimed at industry that have proven successful in generating multiple benefits (e.g. climate mitigation, waste reduction, economic benefits) including adaptation benefits should be expanded, and at-risk business sectors should be prioritised for current and/or expanded offerings. Increased funding for renewable energy and energy efficiency programs, for example, would have at least three benefits (i.e. mitigation, adaptation and cost saving).

### ***Expanding research in this area***

There seemed to be generally relatively little current, local research available on the adaptation needs of at-risk businesses and sectors or best practice in this area. Building strong evaluation components into expanding and new interventions would be one way of continuing to build knowledge in this area and to monitor the relevant success of different approaches.

<b>B3. Recommendations at the structural/big picture level</b>		
<b>Recommendations</b>	<b>Target audience</b>	<b>Who can support and how</b>
<p><b>B3.1 Integrate climate risk into Occupational health and safety governance and capacity building</b></p> <ul style="list-style-type: none"> <li>• B3.1.1 Consider creating a broad-based awareness raising campaign (similar to TAC and work safety advertising campaigns) to socialise the need for planning and risk management around climate impacts to industry and workers, especially in at-risk sectors.</li> <li>• B3.1.2 Review OHS regulations in consultation with industry bodies and unions to ensure they adequately cover climate risks and extreme weather in an efficient way, and integrate climate risk messaging.</li> <li>• B3.1.3 Bring together unions, employers and industry bodies in key sectors facing climate-related OHS risks to identify best practice risk management that can be incorporated into OHS policies and procedures, guidelines and risk management plans, and organisational and industry OHS training.</li> </ul>	<p>Unaware/ Unprepared businesses and all businesses and workers in at-risk sectors</p>	<p>Business Victoria, DELWP, business associations, networks and peak bodies</p> <p>WorkSafe Victoria in partnership with unions and industry associations</p>
<p><b>B3.2 Unlock renewable energy opportunities for business</b></p> <ul style="list-style-type: none"> <li>• B3.2.1 Review regulatory, policy and infrastructure barriers that constrain the efficient supply of energy, which is a key enabler of high-energy sectors such as manufacturing. While perverse outcomes in terms of increased industry emissions must be avoided, the Victorian Government can play a role in unlocking the potential of new technologies, renewable energy and energy storage through investment in a more efficient power grid (see Heatwaves in Victoria: A Vulnerability Assessment for a detailed breakdown of barriers).</li> </ul>	<p>Electricity generation and distribution sector</p>	<p>Victorian Government – regulation and policy</p>
<p><b>B3.3 Provide further funding for supporting at-risk business sectors</b></p> <ul style="list-style-type: none"> <li>• B3.3.1 Provide funding and support to industry and regional bodies for sector-specific training and information distribution on climate risks and impacts and their implications for businesses and across at-risk sectors.</li> <li>• B3.3.2 Provide funding for local government to expand current successful programs with multiple benefits (that include adaptation benefits), and prioritise at-risk sectors for support.</li> </ul>	<p>At-risk business sectors, local government, individual businesses, peak and regional bodies</p>	<p>Victorian Government – funding</p>

<ul style="list-style-type: none"> <li>• B3.3.4 Expand currently successful Victorian Government programs with multiple benefits (that include adaptation benefits), and prioritise at-risk sectors for support.</li> </ul>		
<p><b>B3.4 Support learning and research</b>            Build strong evaluation frameworks into all of these interventions and consider action learning projects for grants programs so as to continue to build knowledge to build knowledge in this area and to monitor the relevant success of different approaches.</p>	Funding recipients	DELWP in partnership with DH, DFFH – funding guidelines

## Conclusion

This report has identified key directions and specific recommendations to reduce the vulnerability and increase the preparedness and resilience of at-risk communities and business sectors to climate change impacts.

At-risk communities in Greater Melbourne fall into one or both of these cohorts: those who lack the knowledge to prepare themselves for climate change impacts; and those who lack the resources to prepare, and/or face systemic barriers over which they have little control, which make them highly vulnerable to climate change impacts, and which preparation can address partially at best.

The strategies for addressing these two kinds of vulnerability are different, and both kinds must be addressed in order to protect at-risk communities. Addressing the first need – the need for knowledge – will at best lead to a level of personal preparedness that is a necessary but not sufficient factor for at-risk communities in adapting to climate change. Best practice community-based communications approaches will be needed to make sure that information on climate risks and impacts, and on personal preparedness for those risks and impacts, is reaching all at-risk communities. The key recommendations in this area can be summarised as:

- A1.1 Continue and expand information provision for individuals, households and families on seasonal preparedness and managing climate impacts through targeted best-practice community-based communications campaigns and capacity building for households
- A1.2 Enable and invest in in-home solutions for individuals, households and families to manage climate impacts, including upgrading existing social housing, and enabling tenants and renters to cool and heat their homes appropriately

Moving beyond individual personal preparedness, strategies to increase the resilience of communities will be very important in enabling them to adapt to climate change impacts. The key recommendations in this area can be summarised as:

- A2.1 Support at-risk communities directly through simple, accessible grants that will enable them to identify and address their own adaptation needs.
- A2.2 Support the organisations that support at-risk communities through training, guidance, facilitated sectoral planning, capacity building, performance measures aligned with adaptation, and communications support.

Addressing the second need involves breaking down systemic barriers and building long-term solutions to deep-rooted issues of equity. The key recommendations in this area can be summarised as:

- A3.1 Strengthen adaptation governance ensuring that climate risk is built into all funding and policy decisions with particular regard to the life-threatening risks to at-risk communities and livelihood-threatening risks to at-risk businesses
- A3.2 Address housing needs of at-risk communities including providing long-term housing for the homeless, expanding and upgrading social housing and regulating

private rental properties so that all Victorians have accommodation that provides adequate shelter from Melbourne's changing climate

- A3.3 Invest in preventative health programs to protect people, communities and organisations from climate impacts before they occur, including addressing climate health literacy, prevention of drug and alcohol dependence and family violence, and supporting holistic settlement of newly arrived refugees.
- A3.4 Adapt our emergency management responses to protect at-risk communities, ensuring that people with disabilities and newly arrived refugees are included and accommodated in emergency planning, that emergency services workers have the capacity to work with at-risk communities, and that there are more proactive protocols in place to protect homeless people during extreme weather, and to use these measures to move them into long-term accommodation.
- A3.5 Support learning and research through building strong evaluation into adaptation funding and supporting localised action research to guide local action.

Awareness of and preparedness for climate impacts in at-risk business sectors in Greater Melbourne generally seems to be low, so raising the awareness and capacity of individual businesses as well as at-risk sectors will be an important step to protect livelihoods in Melbourne's changing climate. The recommendations in these areas can be summarised as:

- B1.1 Integrate climate risk and adaptation into existing government programs and grants for businesses, including making sure that local and state government economic development policies, programs and offerings explicitly address climate risk and adaptation and/or prioritise at-risk business sectors, including supporting individual businesses to take up renewable energy and energy efficiency options
- B2.1 Build sectoral capacity for managing climate impacts, including facilitating sectoral adaptation planning and supporting sector-level capacity building initiatives for managing climate risks.

At a higher level, across all sectors, the recommendations can be summarised as:

- B3.1 Integrate climate risk into OHS governance and capacity building through state-level bodies such as WorkSafe and WorkCover bringing together at-risk sectors to review and update current frameworks, guidelines and training
- B3.2 Unlock renewable energy opportunities for business by reviewing and addressing current systemic and regulatory barriers
- B3.3 Provide further funding for supporting at-risk business sectors, especially where there are multiple benefits
- B3.4 Support learning and research through building strong evaluation into adaptation funding for businesses and supporting research into business adaptation.

## Appendices

### **Appendix 1: Poll results from Business workshop**

Some key questions were used in live polls during the webinar co-hosted by NAGA and NORTH Link *Your business and climate shocks: Are you prepared?* on 18 February 2021. The target audience for this workshop was primarily members of NORTH Link and their subgroup, Melbourne's North Food Group, that is, manufacturers and food producers in the northern suburbs. Approximately thirty people attended the webinar and of these, 15-20 responded to a number of live polls run during the session, with the following results.

- In the past 5 years:
  - 95% of respondents had noticed electricity costs going up 'a bit' or 'a lot.'
  - 80% of respondents had noticed that cooling needs had gone up 'a bit' or 'a lot.'
- All respondents said that extreme heat caused their workers to be stressed or uncomfortable at least occasionally, and around 75% said it had made it hard for them to get to work at least occasionally.
- More than 80% said that extreme heat had at least occasionally made it difficult for customers to access their business.
- More than half said that bushfire smoke had at least occasionally made it difficult for customers to access their business, and 60% said it had made it hard for employees to get to work at least occasionally.
- More than half were aware of their supply chain having been impacted by climatic events.
- Nearly two thirds thought that their business was being, or would be, impacted by climate change 'a lot'.
- Less than a quarter felt their businesses were well prepared for these impacts, but over 75% felt they had taken at least 'a few' steps to prepare, and nearly half felt they had taken 'a lot'.

## Appendix 2: Collated notes from Building Adaptive Communities

### Workshop 1

Scenario 1: Heatwave (shock)

Impacts on community members	Impacts on organisation (staff, volunteers, services)
<ul style="list-style-type: none"> <li>• Homes are not comfortable, sometimes even not safe</li> <li>• Financial stress – expensive to cool (either don't cool or take budget away from food expenses)</li> <li>• Sometimes no cooling options in homes. Some public housing even unable to open windows.</li> <li>• Medication often doesn't store well in heat.</li> <li>• Some choosing to sleep outside rather than dealing with heat.</li> <li>• Some venues are not accessible by public transport</li> <li>• Some people are not comfortable to go to public cool spaces (e.g. shopping centre)</li> <li>• Compounding factors: e.g. elderly, from different cultural background, dealing with trauma</li> <li>• If can't leave home – increases social isolation, limits access to social services. Mental health impacts.</li> <li>• Increased risk of food insecurity. Single person households often rely on carer or family/relatives to receive support.</li> <li>• Impacts on food production – food security and affordability.</li> <li>• Increased risk of heat stroke</li> <li>• Existing chronic disease, medications impacted</li> <li>• Mental stressors – sleep deprivation, social isolation,</li> <li>• Domestic violence</li> <li>• No access to transport for services</li> <li>• Outside workers – roads/landscapers</li> <li>• Financial impacts – cost of utilities, may limit other needs eg food</li> <li>• Children – lack of sleep adds to family stress</li> <li>• Dehydration</li> <li>• New arrivals not aware of information need info sessions</li> <li>• Cool spaces - If in lock down may not be able to use, what happens after 5pm?</li> </ul>	<ul style="list-style-type: none"> <li>• Staff physical and mental health impacts. Productivity reduced</li> <li>• At home some staff may not be able to cool space sufficiently</li> <li>• Mental health impact for staff thinking about implications for clients (worry and concern)</li> <li>• Heat impact on energy security, public transport. Impacts on systems that support organisations.</li> <li>• Facility management/parks staff (physical roles) not indoors, increased danger for those workers... flow on implications for community – reduced quality of services provided</li> <li>• Increased demands of services (e.g. Covid)...</li> <li>• Capacity to deliver service limited, community expectation not met</li> <li>• Staff re prioritise, juggle time</li> <li>• If code red movement of staff limited</li> </ul>

What actions would you / your organisation take?	Who else could provide assistance and support?
<ul style="list-style-type: none"> <li>• Check on people that are vulnerable but this is only those are known to us</li> <li>• Move delivery on-line, but need back-up if systems you are relying on break down</li> <li>• Increased community messaging during periods of increased heat.</li> <li>• Wellbeing checks for at-risk community members (was done through covid)</li> <li>• Encourage community members to find cooler spaces (e.g. libraries).</li> <li>• Use of open spaces increased during covid so opening more green spaces with added staff doing maintenance</li> <li>• Libraries, shopping centres, playgrounds plant trees, water coolers in parks</li> <li>• Encourage sun smart</li> </ul>	<ul style="list-style-type: none"> <li>• Speak with CSO so have joint understanding of whats needed.</li> <li>• Casey have liaison position with CSO's</li> <li>• Heat maps would be useful to prioritise buildings in the heat areas that need refurbishment</li> <li>• Housing – work done with SECCCA refits of houses, public housing, rooming houses</li> <li>• Funding from state govt for refits</li> </ul>

Scenario 2: General warming; longer, hotter summers (stressor)

Impacts on community members	Impacts on organisation (staff, volunteers, services)
<ul style="list-style-type: none"> <li>• Fuel stress.</li> <li>• Elderly clients worried about bills</li> <li>• Mental health – anxiety on how to cope, sleep can be impacted and this can impact mental health</li> <li>• Stress in anticipation of what the summer will bring if spring is already so hot</li> <li>• Very young children and their parents, chronic health problems – knowing they'll be impacted they may be less keen to leave the house</li> <li>• Sheltering inside more than usual</li> <li>• Homeless people don't have a home to shelter in</li> <li>• Escaping home and dropping into cooler places – more difficult during Covid</li> <li>• Young people are sometimes moved on</li> <li>• Increased energy bills – air conditioning – low income creates increased stress</li> <li>• Caring impacts stress – inability to walk pets, care for young children</li> <li>• Caring for a person with a disability – increases stresses</li> <li>• People's mental health – social connection</li> </ul>	<ul style="list-style-type: none"> <li>• Mental health of staff – worrying about what's happening – how they will cope personally and professionally</li> <li>• Meals on wheels, home care – restrictions when staff will work, would this apply when it's not a extreme heatwave but if it's ongoing?</li> <li>• Restrictions on outreach services during Covid anyway (limits people in the house to help), but also clients fearful of reaching out when they need help because of fear of Covid</li> <li>• Might be accessing emergency services more</li> <li>• Impacts to infrastructure – too hot, etc power blackout</li> <li>• Rely on power sources too much – also systems such as sms</li> <li>• Uncertainty regarding blackouts – how long it may affect services</li> <li>• Ability to let communities know – planned outages, unplanned outages??</li> <li>• Impact on organisations utility costs of higher air conditions</li> <li>• Ability to deliver services</li> </ul>

<ul style="list-style-type: none"> <li>• Exacerbate existing health conditions</li> <li>• Have to escape heat (/ cold)– due to lack of air conditioning – use of libraries, shopping centres etc</li> <li>• Homeless people have nowhere to go</li> <li>• Will go for a drive – as air conditioned – increased costs</li> <li>• Tank Water – prolonged heat affects how much water is used / refilling of rainwater tanks</li> <li>• GP – allergies / seizures – heat can have impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Relocation of organisation to provide continuity of services</li> <li>• Greater need for outreach – greater needs for services</li> <li>• Greater needs on communications lines – both technology and number of calls coming in</li> <li>• Heatwave impacts</li> <li>• Cancellation of activities</li> <li>• Greater demand on services in general – as demonstrated by impacts on community</li> <li>• Impacts to undertake activities when power outages occur – recording of data / information request</li> </ul>
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What actions would you / your organisation take?	Who else could provide assistance and support?
<ul style="list-style-type: none"> <li>• Darebin Council map of places to shelter</li> <li>• Handing out vouchers for activities or PT to access cool spaces – targeted at young people</li> <li>• IPC health working on a map for younger people</li> <li>• Darebin heatwave policy – there’s a contact line for people to reach council for assistance; people check up on vulnerable people</li> <li>• Recreational activities</li> <li>• Promote the recorded webinar on how to handle heat</li> <li>• Education of community – CALD community. Plain language infographics</li> <li>• Messaging – communication in line with Emergency Mgt Plans</li> <li>• Giving directions for places to go / call / for assistance – communications with other stakeholders to co-ordinate efforts – being clear on what role your organisation has</li> <li>• Being prepared – can’t make decisions on the run – a clear recognition of impacts of climate change and commitment to take action – it can’t be ambivalent and defer</li> </ul>	<ul style="list-style-type: none"> <li>• HACC team members can undertake some tasks</li> <li>• SMRC – printed messages in key languages – and sent out to clients</li> <li>• Assistance to disseminate information – eg. seniors groups community leaders</li> <li>• A lot of resources out there – not reinventing the wheel – being resourceful – can be overwhelming – as too much information</li> </ul>

Bonus scenario: Bushfire smoke is added to extreme heat

Impacts on community members	Impacts on organisation (staff, volunteers, services)
<ul style="list-style-type: none"> <li>• People can't go out, more dependent on in-home services, are cool spaces not accessible because of this? What about those without a home</li> <li>• Inadequate e.g. cooling system, low quality housing, smoke affects people in their own home, particularly renters</li> <li>• often people on higher level of public housing blocks more affected by heat</li> <li>• Inhaling smoke and in heat – appetites affected, people can become dehydrated</li> <li>• Safe spaces might not be accessible at night time</li> <li>• Respiratory, eye issues, asthma</li> <li>• Mental issues, trauma associated with past experiences</li> <li>• Prolonged smoke has big impact on children</li> <li>• Stress – how do I know when to seek help?</li> </ul>	<ul style="list-style-type: none"> <li>• Sourcing masks, bigger demand for masks</li> <li>• More calls from people in distress seeking help</li> <li>• Making decisions on whether to open safe spaces during Covid</li> <li>• Increased demand for emergency services e.g. family violence, acute mental health services, food relief</li> <li>• Prevention staff being redirected to response efforts, added work load because of this</li> <li>• What services could they provide in the evenings / night?</li> <li>• Staff Impacted directly</li> <li>• High level of absenteeism</li> <li>• EM staff may be away assisting at fires so hard to deal with local impact</li> <li>• Services continued, may be drop off in attendance</li> </ul>

What actions would you / your organisation take?	Who else could provide assistance and support?
<ul style="list-style-type: none"> <li>• Prevention staff being redirected to response efforts</li> <li>• Check in with at-risk clients</li> <li>• Regular communication, social media so they have correct info, from trusted source, update on fire risk and where fires are</li> <li>• Share message via social media, info sessions</li> <li>• Are used to wearing masks through covid</li> </ul>	<ul style="list-style-type: none"> <li>• State emergency services</li> <li>• DHS; DFFH – support for councils (?), perhaps their own relief programs</li> <li>• Councils for food relief</li> <li>• Communication by Community leaders, faith leaders to diverse communities</li> <li>• Local media</li> </ul>

## Building Resilience

What could you put in place to improve your response next time	What can you do to build your community's resilience to all types of extreme weather
<ul style="list-style-type: none"> <li>• Need knowledge about where clients are and their circumstances. Council run mechanism to store that information?</li> <li>• Changes to environment – Better planning – allowing for green spaces around building, keeping existing public green spaces in-tact</li> <li>• Invest more in outreach services – reach the population who don't have access to websites etc, partner with other organisations who do more of this</li> <li>• Know who you could work with, building the relationships in advance</li> <li>• Future proofing – solar, better buildings, grants</li> <li>• Education of community – CALD community. Plain language infographics</li> <li>• Being prepared – can't make decisions on the run – a clear recognition of impacts of climate change and commitment to take action – it can't be ambivalent and defer</li> <li>• Starting the conversation</li> <li>• Smoke not on agenda but now aware of it and plan response</li> <li>• Let community know of councils role prior to season espec newly arrived</li> <li>• Mornington peninsula Shire Responding to evacuations eg Mallacoota people 2020</li> <li>• Learn from our past experience from fires/covid</li> <li>• Older buildings - check maintenance schedules</li> <li>• City of Casey developing Climate Change strategy</li> <li>• Consider vulnerability holistically – don't separate into categories.</li> <li>• Need for collaboration with other services</li> <li>• Buildings vary from old-new. Need to refurbish older buildings.</li> </ul>	<ul style="list-style-type: none"> <li>• Advocacy – raising the rate; improving rental rights</li> <li>• Working with CALD communities, translated materials useful to have developed for when needed</li> <li>• Education of community – CALD community. Plain language infographics</li> <li>• Conversations with community – community leaders, from little things – big things can develop</li> <li>• Visit community leaders – to engage and inform</li> <li>• Checking cooling system, etc to check effective</li> <li>• Solar panel and battery story system for small towns – counteract power outages – Increase support for solar – not funding but information and engagement - in an accessible way</li> <li>• Extreme weather is reality Keep it simple – emergency kits are the same</li> <li>• Community awareness that emergencies can happen so plan both organisational and individual</li> </ul>

## Appendix 2: Collated notes from Building Adaptive Communities

### Workshop 2 – Support needs

#### What support do you need personally?

- Telephone support network – list of contacts in place (with colleagues to figure out logistics of continuing services, letting people know your situation; ability to contact clients if can't get into the office)
- More understanding of impact of CC in workplace and confidence to respond
- Time set aside in workplan to be reflective after events and do planning
- No AC at home / Cost of AC at home
- Access to EAP/ wellbeing supports
- IT support
- Check list of reminders that can do for self/neighbours
- Flexibility of hours
- Work from home arrangements – look out for “work bleed” into personal time
- Maintain contact with people in others organisations doing the same thing, share common experiences / difficulties / successes for inspiration
- Flexibility in work times etc – Covid systems work well for this too

#### What support is needed in your organisation?

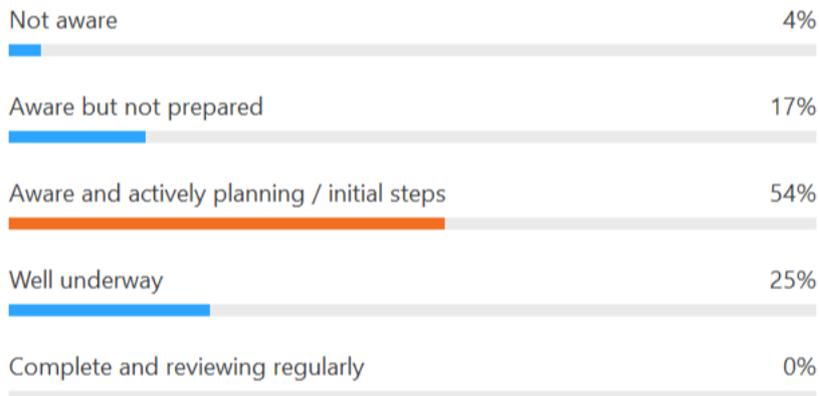
- Template policies (sector based) / Peak body to provide templates for policies etc. (acknowledge under-resourced orgs need support to get things started)... e.g. NH network
- Posters / publicity to inform / remind different sections of the organisation e.g. those who work directly with clients
- Inter-organisational networks to share strategies, level of consistency across organisations – f2f for setting up initially to build relationships but after can use online platforms that are topic based and can share resources e.g. Yammer
- Champions across the organisation in key areas
- Networks and connections with emergency services (SES, CFA) to quickly communicate, understand resources and info they are getting
- Comprehensive tool used across the organisation, led by OH&S, standing agenda on OH&S committee (already has reps across org) and executive
- Staff training, induction
- Communication strategy, clear process
- Texts when extreme weather
- Guidance as to what to do, clear plan
- EM system
- Info to all levels of org so everyone knows and understands role
- Info sessions for volunteers and staff
- Letting clients and community know what the processes are prior to the event and aware of what will happen

What do your leaders need?

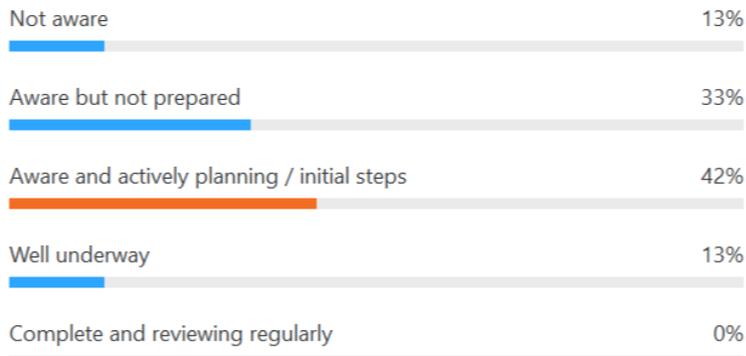
- Understanding of what best practice is – case studies, networks, research behind it done at a state level as individual organisations don't have the funds for this
- Resources can be scarce so this best practice can help focus the resources
- Support from board to resource planning activities
- Understanding of the risks
- 1:1 mtgs with how people are coping at mtgs with officers and mgs
- Spread responsibility across org
- Staff resources and \$ to ensure items in place
- Team work, good communication amongst staff
- Consistent message
- Plan of who to contact in emergency

## Appendix 3: Polls from workshop 2

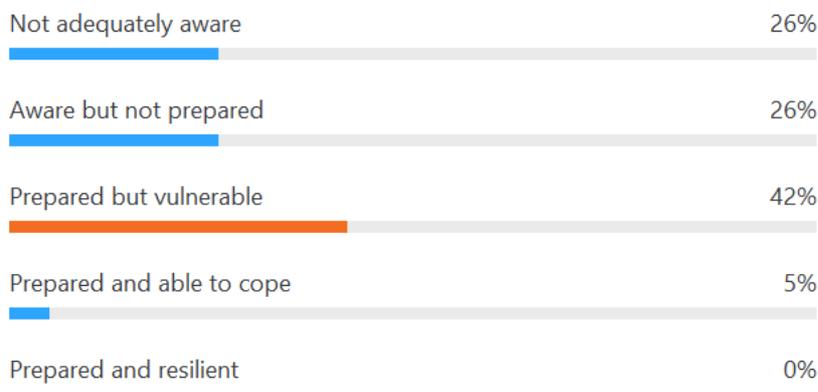
### 1. How prepared is your organisation for the impacts of extreme weather on employees and volunteers?



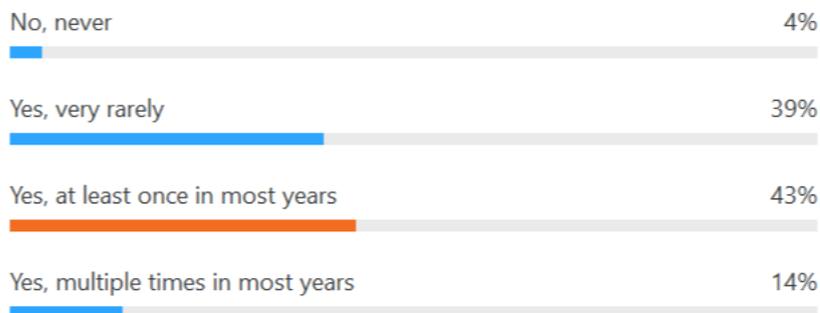
### 1. How aware and prepared is your organisation for the impacts of extreme weather on your clients?



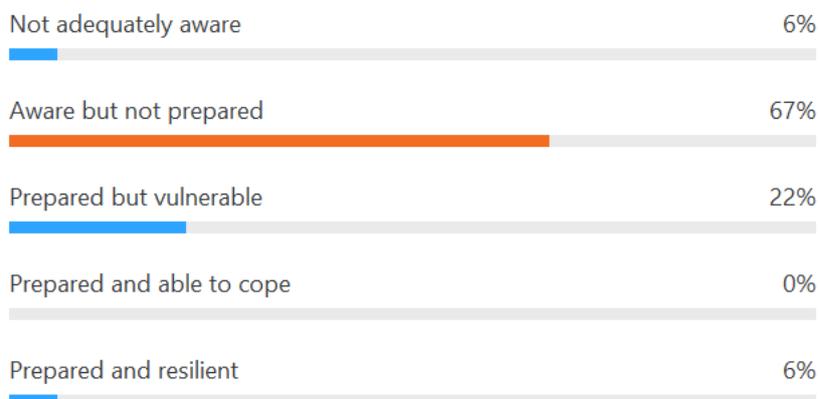
### 1. How prepared is the community in which you work for extreme heat?



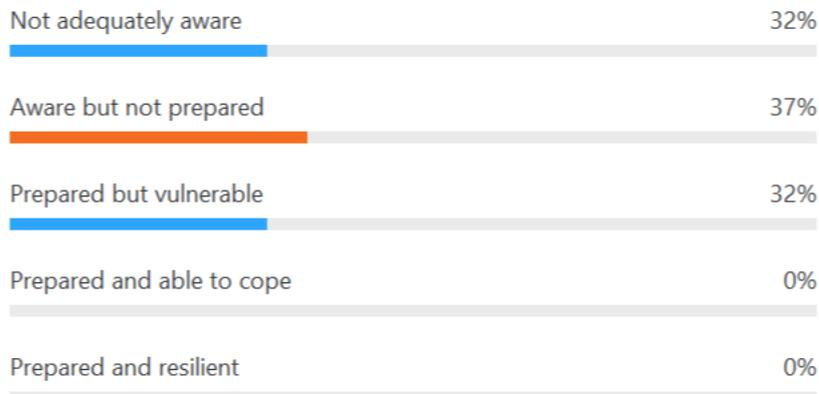
**1. Does extreme weather (heatwaves, storms, flash-floods, bushfire smoke) ever make it hard for employees or volunteers in your organization to get to work?**



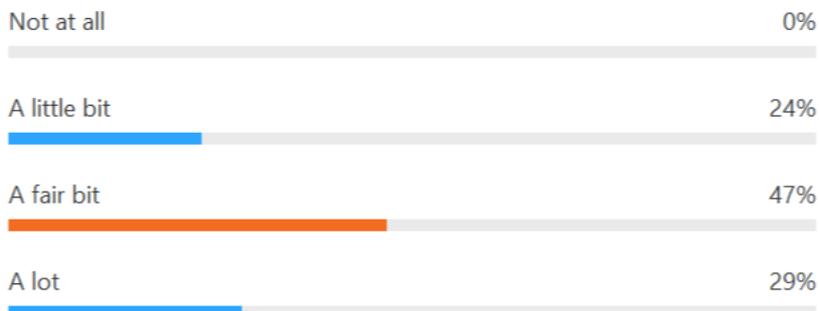
**1. How prepared is the community in which you work for fires and bushfire smoke?**



**1. How prepared is the community in which you work for floods?**



**1. How much is this community affected by covid-19 and/or covid restrictions in terms of their ability to cope with climate impacts?**



## Appendix 4: Collated notes from Building Adaptive Communities

### Workshop 3 – Needs at all levels for supporting at-risk communities

What support is needed for individuals, families and households to prepare and become resilient?	What support is needed for communities, groups, neighbourhoods and municipalities to prepare and be resilient collectively?
<ul style="list-style-type: none"> <li>• Access to grants supporting them – energy efficiency</li> <li>• Help to navigate the supports available</li> <li>• A general awareness of climate change and the impacts – knowledge of the links between climate change and consequences</li> <li>• How advocate for these things</li> <li>• Council could support by knowing pathway</li> <li>• Knowing how to make small changes</li> <li>• Support to set up new systems</li> <li>• Resilient/safe housing to cope with impacts</li> <li>• Education about what can be done at both an individual and community level</li> <li>• These groups need activity centres, schools, sporting fields, parks etc. they can escape to as a refuge</li> <li>• Support needed for compounding impacts such as increases in family violence</li> <li>• Posters / publicity to inform / remind different sections of the organisation e.g. those who work directly with clients</li> <li>• Texts when extreme weather</li> <li>• Guidance as to what to do, clear plan</li> <li>• Individual planning with clients – due to their needs, barriers – very labour intensive – but focussing on acute issues</li> </ul>	<ul style="list-style-type: none"> <li>• Leadership within community- local coordination of projects -support this role eg by tools to have the conversation</li> <li>• More trees</li> <li>• Flexibility of services in extreme weather</li> <li>• Education about how extreme weather impacts on health</li> <li>• Encourage emergency planning amongst neighbours</li> <li>• Emergency centres (ERC) to be inclusive and accessible, carer dynamics,</li> <li>• Access to ERC awareness by infrastructure of this – is there knowledge of these centres</li> <li>• Information and planning</li> <li>• Activity centres, schools, sporting fields etc need to be resilient and prepared for impacts from climate change and to host potentially an influx of people</li> <li>• Neighbourhood refuge and community centres need a plan to continue to provide services in the event of a black out, extreme weather etc.</li> <li>• Support to cater for pets, considerations of safety for children (i.e. staff with WWC), an ability to manage all sectors of the community who may need to use these centres</li> <li>• Places to go during heatwaves that takes COVID into consideration – when shopping centres or other public spaces may be closed</li> <li>• Funding and resources</li> </ul>

What support is needed for your sector or your organisation to be prepared and able to support the resilience of the community?

- Need accessible built environment, transport, information
- Networking and training opportunities, staff preparedness, care workers speaking with participants
- Tools to help community join the dots
- Understanding of the community and engagement tools/skills to anticipate and understand their needs (that are specific to their location)
- An understanding of how to tailor responses and communications to different groups
- Template policies (sector based) / Peak body to provide templates for policies etc. (acknowledge under-resourced orgs need support to get things started) e.g. NH network
- Champions across the organisation in key areas
- Networks and connections with emergency services (SES, CFA) to quickly communicate, understand resources and info they are getting
- Comprehensive tool used across the organisation, led by OH&S, standing agenda on OH&S committee (already has reps across org) and executive
- Staff training, induction, info sessions for volunteers
- Emergency management system
- Info to all levels of org so everyone knows and understands role
- Inter-organisational networks to share strategies, level of consistency across organisations – f2f for setting up initially to build relationships but after can use online platforms that are topic based and can share resources e.g. Yammer
- Partnerships work well – bringing different understandings of issues, ie law, financial, social, health care workers – spreading the load - intensive workloads
- Working through schools – badgering of parents, but also able to support parents due to understanding. Use of existing networks – eg Community Hubs
- Workshops such as these increase awareness – but follow up support is needed to help participants get buy in from their organisation and implement change. City of Greater Dandenong is looking to pilot a program to work through with one Community Service Provider – identify the process, tools, information, barriers etc, and then roll it out more broadly – this will have a far bigger reach than if we used these resources to just focus on individuals. Partnerships, collaboration important.

What is needed at the 'big picture' level to support your community? Think about state and regional policy, programs, funding, regulations etc

- Proactive strategic approach, from Canberra down NOW
- Ensure people understand the message
- Communicate best practice to community
- Advocacy
- Staff, resources, security, funding etc. to run refuge centres/cool spaces/neighbourhood safe spaces
- State programs that talk about climate change adaptation to make change easier at a local level
- State government is defining local government's roles – but support is not there. For instance <https://www.localgovernment.vic.gov.au/strengthening-councils/sector-guidance-planning-and-reporting>