

# CLIMATE CHANGE IN DAREBIN - CLIMATE JUSTICE ENGAGEMENT PROJECT

Report prepared for Darebin City  
Council

February 2024



Jesuit  
Social Services  
Building a Just Society



Resilient, inclusive &  
regenerative communities

## Acknowledgements

We acknowledge the Traditional Custodians and First Nations people of all the unceded lands on which Jesuit Social Services operates. This project was undertaken on the unceded Lands of the Wurundjeri Woi-Wurrung people. We pay our respects to their Elders past and present. We express our gratitude for their love and care of people, community, land, waters and all life.

We extend a special acknowledgement to the Aboriginal Elders and members of our working group whose generosity of time and expertise was instrumental in shaping our process: Uncle Stuart McFarlane, Uncle Charles Pakana, Uncle Owen Butler, Uncle James Williams, and Jay Peluso.

We gratefully recognise all participants of this project, whose knowledge, experiences, and trust made the process and outcomes of this project possible. In particular, we thank the staff and volunteers from the following organisations that work tirelessly to build a welcoming, caring and resilient community in Darebin, and whose generosity enabled the voices of this community to be heard.

- Bridge Darebin
- Brotherhood of St Laurence
- Darebin City Council Climate Emergency Programs team
- Darebin City Council Equity and Wellbeing team
- Darebin Ethnic Communities Council
- Darebin Interfaith Council
- Darebin Library
- DIVRS
- East Preston Community Centre
- High school (Darebin)
- East Reservoir Neighbours for Change
- Melbourne Polytechnic
- Northern Community Church of Christ
- SPAN Neighbourhood House
- Your Community Health

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Suggested citation for this report:

Piper, J., Wolf, A., Moloney, S., and Gooder, H. (2024). Climate Change in Darebin - Climate Justice Engagement Project. Summary of report Darebin Climate Justice Engagement prepared by Jesuit Social Services' Centre for Just Places for Darebin City Council in 2022.

## Jesuit Social Services: Who we are and what we do

Jesuit Social Services has been working for more than 40 years delivering practical support and advocating for improved policies to achieve strong, cohesive and vibrant communities where every individual can play their role and flourish. We are a social change organisation working with some of the most marginalised individuals and communities, often experiencing multiple and complex challenges. Jesuit Social Services works where the need is greatest and where we have the capacity, experience and skills to make the most difference. Our services span Victoria, New South Wales and the Northern Territory where we support more than 57,000 individuals and families annually.

Our service delivery and advocacy focuses on the following key areas:

- **Justice and crime prevention** – people involved with the justice system
- **Mental health and wellbeing** – people with multiple and complex needs including mental illness, trauma, homelessness and complex bereavement
- **Settlement and community building** – recently arrived immigrants and refugees, and disadvantaged communities
- **Education, training and employment** – people with barriers to sustainable employment
- **Gender and culture** – providing leadership on the reduction of violence and other harmful behaviours prevalent among boys and men, and building new approaches to improve their wellbeing and keep families and communities safe.
- **People and place** – leadership, research, action and advocacy on place-based approaches to address disadvantage and build resilient, inclusive, regenerative communities.
- **Ecological justice** – inviting discussion on what practices, policies and actions can be taken by governments, individuals, organisations and the community services sector within Australia, to build an ecologically just society.

## Jesuit Social Services' Centre for Just Places

The Centre for Just Places was established by Jesuit Social Services, with seed funding from the Gandel Foundation and the Victorian Government, to enable and support place-based approaches nationally through research, collaboration, engagement and knowledge exchange.

### Vision

*Enabling resilient, inclusive and regenerative communities.*

### Mission

*Enable and support place-based approaches nationally through research, collaboration, engagement and knowledge exchange.*

### Pillars: Research – Action – Advocacy

- Demonstrate leadership in research and advocacy on place-based inequities and injustice.
- Focus on addressing the root causes of social, economic and environmental inequity and injustice.
- Promote a social and ecological justice lens in place-based research and action.
- Collaborate and partner with communities and cross-sectoral stakeholders to support and enable effective place-based approaches.

## Executive Summary

Between July 2021 and May 2022, the Darebin City Council Climate Justice Engagement project, led by Jesuit Social Services' Centre for Just Places in partnership with Bridge Darebin, worked with three priority communities in the City of Darebin: Aboriginal and Torres Strait Islander people, residents aged 65 and over, and people from migrant and refugee backgrounds. Through a detailed engagement process, the voices of these cohorts were centred, allowing them to articulate their own needs and priorities in understanding and adapting to the climate emergency.

A relational, collaborative design method was used, working closely with community services and community leaders to shape each engagement activity. This enabled the project team to leverage the trusted relationships held by those working in the community and provided access to the voices of those harder to reach through more static engagement methods. Importantly, this approach established and strengthened relationships between the Climate Emergency Programs team at Darebin City Council and the community sector to support future climate action and adaptation projects, including avenues for community-led, climate-related projects and partnerships, and the development of the next Darebin Climate Emergency Plan in 2022.

A total of 234 participants were engaged across 23 different engagement activities that varied from facilitated group discussions with a diabetes support group, to researcher supported surveys at a food relief service and 1-on-1 interviews by phone with older residents isolating through COVID-19 lockdowns.

This report combines the key findings from the engagement process, including lessons and opportunities for future engagement and partnership building (i.e. assessing the effectiveness of engagement methods), and summarises what was heard to recommend key areas of need for at-risk communities in the City of Darebin.

### Summary of recommendations:

- **Climate adaptation actions that address other intersecting factors of disadvantage should be prioritised**, recognising that a well-connected community and thermally comfortable and secure homes will contribute to social and emotional wellbeing
- A **whole-of-community approach is necessary to keep people safe and well**, bringing together Council staff, community service organisations, faith and community groups, local businesses, and community members
- **Council has a critical role to play on behalf of tenants**, in advocating to landlords and State Government agencies, on minimum standards for private and public rental homes, as well as prioritising repairs and retrofits for those in public housing
- Expanding the **activities and spaces available to the community during extreme weather events first necessitates understanding barriers to use**, such as cost, location/transport, accessibility and cultural and personal safety
- **Council procedures and training around working during extreme weather should be reviewed in consultation with key stakeholders**, including local community service organisations and community members to make explicit roles, responsibilities, and referral pathways for support
- Engaging **existing, trusted networks and gatherings** is key to ensuring that communications around extreme weather events resonate with the community and translate into localised action
- **Information should be tailored to the needs and knowledges of local community members**, accompanied by regular engagement with local community groups to answer questions and share resources about relevant supports and services
- **Investing in relationships and working with local community leaders and community and health services** to collaboratively design and deliver engagement activities creates effective and respectful pathways to hear the voices and needs of those harder to reach

- **Community leaders and local services engaged in an ongoing capacity should be remunerated** for their time, knowledge, and expertise in facilitating strengths-based discussions
- **Council should invest in involving the rich diversity of experiences that make up the City of Darebin**, centring the voices of those who continue to be marginalised from decision-making processes, including Aboriginal and Torres Strait Islander people and newly arrived community members

## Part I – Introduction

### 1.1 – Project objectives

Between July 2021 and May 2022, this Darebin Climate Justice Engagement project worked with three priority communities in the City of Darebin, Melbourne, Victoria. Through a detailed engagement process, including a number of in-depth sessions, the needs and priorities of the three communities were identified in relation to understanding and adapting to the climate emergency. Core to this was situating climate change as a social justice issue. Climate change impacts, such as heat stress and energy affordability, often go hand-in-hand with other forms of social and economic disadvantage, and disproportionately position certain communities as vulnerable.

Priority communities engaged through this project included Aboriginal and Torres Strait Islander community members living in Darebin, residents aged 65 and over (or 55 years and over for Aboriginal and Torres Strait Islander people), and people from migrant and refugee backgrounds. Efforts were made to engage these community groups where there are ongoing issues of locational and intergenerational disadvantage, notably in East Preston and East Reservoir, including public housing tenants.

This project supports the Council's commitment to climate justice, and to ensuring that vulnerable communities are supported to understand and respond to the impacts of climate change in Victoria.

In summary, the objectives of the inquiry were:

- Develop a deeper understanding by Council of the key areas of need to address vulnerability to the impacts of climate change for each of the participating communities, and of the barriers to effective engagement with priority community groups.
- Establish relationships to support future climate action and adaptation projects, including identifying opportunities for community-led climate-related projects and partnerships.
- Build strong relationships between communities and Council to inform future climate projects and the development of the Darebin Climate Emergency Plan in 2022.

### 1.2 – Desired project outcomes

Project Outcome No.	Project Outcome	Outcome Indicator	Report section
1	Strong relationships between communities and Council to inform future climate projects and the development of the Climate Emergency Plan in 2022	<p>Positive feedback from Phase 2A Community Service Organisations (CSO) workshop participants</p> <p>A reported desire to continue engaging on issues of climate vulnerability for the community sector</p> <p>The compiled list of organisations and community leaders who may be engaged in future for climate</p>	<p>4</p> <p><i>See Building climate resilience in the community sector in Darebin 2021 Report</i></p> <p>3</p>

Project Outcome No.	Project Outcome	Outcome Indicator	Report section
		<p>related projects is considered useful by the Climate Emergency Programs team</p> <p>Positive feedback from engaged community members on the method of engagement</p>	
2	A deeper understanding by Council of the key areas of need for each of the participating communities, and of the barriers to effective engagement	<p>Final report includes key findings from workshops, consultations, surveys and research, including lessons and recommendations for future engagement and identification of key areas of need and priority actions/initiatives</p> <p>Number and diversity of people and organisations engaged</p> <p>Survey responses presented in final engagement report</p>	<p>All</p> <p>2.3</p> <p>3. <b>Appendix A2</b> presents quantitative data</p>
3	Identification of opportunities for community-led climate-related projects and partnerships	<p>Interim report includes recommendations for community-led projects and partnerships gathered through CSO workshop facilitated discussion</p> <p>Final report includes summary of opportunities for community-led projects and partnerships gathered through direct engagement</p>	<p>4</p> <p>3 (See also <i>Building climate resilience in the community sector in Darebin 2021 Report</i>)</p>
4	Community members are engaged in culturally and linguistically appropriate ways and engagement aligns with existing community gatherings and events as far as possible	<p>Meaningful conversations and survey responses collected from a diversity of participants</p> <p>Community leaders, cultural advisors and/or community service providers are involved in the design of the engagement. A summary of feedback and advice included in final report</p> <p>Positive feedback from community members engaged</p>	<p>3, 4</p> <p>4</p> <p>3, 4</p>
5	A more informed community about the resources and support available within the CSO network and through Council programs to reduce vulnerability to climate impacts	Number of participants with whom we have shared information about existing Council resources and support	2.1



## 1.3 – Defining climate justice

Establishing a shared understanding of climate justice was necessary to foreground the project, to support a strengths-based approach, and to ensure engagement was collaborative and reflected the needs, experiences, and knowledges of those at the centre of the project: Aboriginal and Torres Strait Islander people, residents aged 65 and over, and people from migrant and refugee backgrounds.

This extends to how communities were defined in the project. For example, referring to people as from migrant and refugee backgrounds, rather than culturally and linguistically diverse (CALD), in recognition of this being one part of an individual's complex identity.

There are innumerable definitions of climate justice, however, the concept broadly recognises that:

- Existing and intersecting experiences of social, economic, cultural, political, and institutional marginalisation create vulnerability to climate change, for example, living in poor quality homes increases the likelihood of heat stress during heatwaves, especially for those with low-income;
- Adaptation (and mitigation) responses can also heighten vulnerability for those groups with limited capacity to act, for example, transitioning to energy efficient appliances is more expensive in the short term for those least able to afford it; and
- A just and equitable climate response allows marginalised communities to lead with climate actions that speak to their intersecting needs, recognising that these often address other factors of disadvantage, such as the inability to afford electricity bills due to thermally inefficient homes or energy intensive appliances.

## 1.4 – Climate vulnerability in Darebin

### What we know about climate vulnerability in Darebin

Several characteristics and attributes of Darebin's geography and demography make certain populations more vulnerable to the impacts of climate change. Communities are not inherently vulnerable, and it is important to acknowledge that climate change impacts reinforce and deepen experiences of ongoing structural disadvantage and injustice.

While Darebin is a metropolitan area, and less vulnerable to many well-known or obvious impacts of climate change like sea-level rise or coastal erosion, urban areas also face increasing risks under a changing climate. For example, municipalities such as Darebin are more prone to flash flooding under increasing extreme weather events due to a lack of porous surfaces, and more vulnerable to the Urban Heat Island effect (UHI), a phenomenon where urban areas retain more heat and reach higher temperatures than more vegetated areas.<sup>1</sup>

Trees can reduce temperatures by 2-3 degrees by providing shading and reducing evaporation around tree canopies. In 2013 Darebin's urban canopy had a base level of 9.8% coverage,<sup>2</sup> a figure the Council is trying to increase through their Urban Forest Strategy 2013-2028. Increasing temperatures due to the UHI effect can increase vulnerability to heat related illnesses including:<sup>3</sup>

- exacerbation of medical conditions including heart (cardiac) and kidney (renal) disease
- confusion, muscle weakness, unsteadiness and falls due to dehydration
- exacerbation of asthma and other respiratory illness
- gastroenteritis, mostly due to poor food handling
- heat cramps, heat exhaustion and heat stroke.

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<sup>1</sup> Northern Alliance for Greenhouse Action, Climate Change Adaptation Gap Analysis Part Two, 2018.

<sup>2</sup> Darebin City Council, Urban Forest Strategy 2013-2028.

<sup>3</sup> Northern Alliance for Greenhouse Action, Adaptation in the North – Integrated Regional Vulnerability Assessment, Volume 1.

If action to reduce emissions is not taken across all sectors of society, we will continue to see an increase in temperature and sea-level rise and the frequency and severity of extreme weather events. In Darebin, the average number of days above 35C per year will increase from 9 (the current average) to between 12.8 and 14.1 days by 2050. The Darebin Climate Emergency Plan 2017-2022<sup>4</sup> identifies the likely local impacts as:

1. increased cost of food, utilities, fuel and insurance
2. poor health and deaths resulting from severe weather and poorer air quality
3. damage to homes, roads, power and water supplies from severe weather events
4. strained emergency and community support services reduced water supply and more frequent and stringent water restrictions affecting households, agriculture, parks and wildlife
5. local economic and organisational impacts of lost productivity due to extreme weather, making outdoor, factory and other work impractical.

Social connectedness and perceptions of safety are also recognised as important to understanding vulnerability more generally. According to the 2016 census data:

1. 73.1% of Darebin residents agreed that 'people in their neighbourhood are willing to help each other out' (similar to Vic. estimate 74.1%)
2. Six in 10 (60.5%) residents felt that they live in a close-knit neighbourhood (similar to the Victorian estimate 61.0%)
3. 67.2% of Darebin residents agreed that 'people in their neighbourhood can be trusted' (compared to the proportion of Victorians who agreed (71.9%).

A 2015 health and wellbeing survey of residents in East Preston and East Reservoir – two areas where many of the people engaged in this survey live – found differing perceptions of social connectedness and safety for residents.<sup>5</sup> Variables described here are standardised health and wellbeing measures; they correspond to the themes of the census variables above.

- 32.4% (East Reservoir) and 34.7 (East Preston) feel there is community acceptance of diverse cultures compared to 54.8% (Darebin) and 50.6% (Victoria)
- 35.7% (East Reservoir) and 24.4% (East Preston) feel valued by society compared to 48.3% (Darebin) and 54.4% (East Reservoir)
- 36.5% (East Reservoir) and 60.9% (East Preston) feel safe walking along at night compared to 60.9% (Darebin) and 70.3% (Victoria).

Vulnerability to climate change varies across different populations and places depending on a range of factors like age, health, income, housing quality and proximity to high risk flood or bushfire regions. The severity of shocks and stresses associated with extreme weather can be exacerbated by pre-existing issues like poor thermal performance of buildings, social isolation or inadequate alerts or communication systems. Those in rental properties may be less able to adapt or retrofit their homes to be more climate resilient. People who are homeless are often not taken into account in evacuation or emergency response plans, and are at the greatest risk of exposure to extreme weather events.<sup>6</sup> The Victorian Department of Health found that people living alone in a private residence were 1.5 times more likely to present to a hospital emergency department with a heat related condition than those with different living arrangements.<sup>7</sup>

- 31.5% of Darebin households live in rented dwellings<sup>8</sup>
- In 2016, there were 966 people who experienced homelessness in Darebin<sup>9</sup>

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<sup>4</sup> Darebin Climate Emergency Plan 2017-2022.

<sup>5</sup> Darebin City Council Reservoir East and Preston East Health and Wellbeing Survey (2015)

<sup>6</sup> Darebin Climate Emergency Plan 2017-2022.

<sup>7</sup> Department of Health, The population health impacts of heat: Key learnings from the Victorian Heat Health Information Surveillance System (2011).

<sup>8</sup> <https://profile.id.com.au/darebin>

<sup>9</sup> The vast majority of these people were living in supported accommodation for people experiencing homelessness. A street count conducted by the Launch Housing Assertive Outreach team estimated that there are approximately 80 people sleeping rough in Darebin on any given night.

- 26% of Darebin residents live in lone person households, this is higher than the average for greater Melbourne (22%).<sup>10</sup>

### People from migrant and refugee backgrounds

People from migrant and refugee backgrounds are not a homogeneous population and the impacts of climate change are felt unevenly. Those who are newly arrived, elderly, on low incomes, with low English proficiency and/or literacy, and on temporary visa pathways are more vulnerable to climate related events. This is due to a number of intersecting factors, including: isolation from family and community networks; experiences of discrimination, particularly in accessing affordable and safe housing, and a lack of culturally appropriate and in-language information regarding climate change risks and relevant resources for adaptation.

Failure to engage newly arrived community members with information about the Australian context and local systems can also contribute to this vulnerability.<sup>11</sup>

- In 2016, 36.9% of people spoke a language other than English at home (2016 census)<sup>12</sup>
- 33.2% of people who were living in the City of Darebin in 2016 were born overseas, and 25% arrived in Australia within 5 years prior to 2016.<sup>13</sup>

### First Nations communities

First Nations communities in Australia have been identified as particularly vulnerable to climate change events because of the health and socio-economic inequalities they often face.<sup>14</sup> Furthermore, climate change and its impacts pose a significant risk to Aboriginal and Torres Strait Islander people's cultural heritage and relationship with the land and water.<sup>15</sup>

- The Aboriginal and Torres Strait Islander population in Darebin is one of the largest populations in all 31 of Melbourne's municipalities, with approximately 1,165 Aboriginal and Torres Strait Islander people living in Darebin.<sup>16</sup>
- More than 17 Aboriginal community controlled organisations are located within Darebin. Many have played, and continue to play, a key role in Aboriginal self-determination in Victoria, including the Aborigines Advancement League, the Victorian Aboriginal Health Service, Victorian Aboriginal Child Care Association and the Victorian Aboriginal Legal Service.

### Older people

A number of factors associated with aging increase vulnerability of older people to climate events including pre-existing health conditions, social and economic constraints, reduced mobility and spatial awareness.<sup>17</sup>

- 18.3% of Darebin residents were aged over 60 years (2016), comparable with greater Melbourne (19%)

### People with low-income

<sup>10</sup> <https://profile.id.com.au/darebin>

<sup>11</sup> Northern Alliance for Greenhouse Action, Adaptation in the North – Integrated Regional Vulnerability Assessment, Volume 1.

<sup>12</sup> <https://profile.id.com.au/darebin>

<sup>13</sup> <https://profile.id.com.au/darebin>

<sup>14</sup> [https://www.vichealth.vic.gov.au/-/media/ResourceCentre/PublicationsandResources/Health-Inequalities/key\\_influences.pdf?la=en&hash=BCFBA71012C82D3FFE95E65B23967F70B87A804B](https://www.vichealth.vic.gov.au/-/media/ResourceCentre/PublicationsandResources/Health-Inequalities/key_influences.pdf?la=en&hash=BCFBA71012C82D3FFE95E65B23967F70B87A804B)  
Northern Alliance for Greenhouse Action, Adaptation in the North – Integrated Regional Vulnerability Assessment, Volume 1.

<sup>15</sup> VCOSS, A Climate of Fairness report (2019).

<sup>16</sup> <https://profile.id.com.au/darebin>

<sup>17</sup> Northern Alliance for Greenhouse Action, Adaptation in the North – Integrated Regional Vulnerability Assessment, Volume 1.

People with lower income have less financial capacity to plan for, or recover from climate events. This can include the capacity to purchase things like heaters and air conditioners and to pay for the energy or fuel that is required to run them.

- 4.3% of households live in social housing
- In March 2019, only 1.7% of the available rental stock in Darebin was affordable for a family (two adults and children) receiving Centrelink income support compared to the Metropolitan Melbourne average 5.6%
- 11.9% of households (6,963 total) across Darebin were in 'housing stress'<sup>18</sup>. This reduces household capacity to spend on other essentials like food and health.
- In 2016, 19.3% of Darebin households had an income of less than \$650 per week (10,636 total households).

Across Darebin, vulnerabilities to climate change are not evenly distributed. Preston (East) and Reservoir (East) have been identified as areas of relative disadvantage when compared with the rest of Darebin. These areas are also understood to have higher levels of vulnerability to climate events/climate change.

The Socio-Economic Indexes for Areas (SEIFA) is an Australian Bureau of Statistics (ABS) tool that uses Census data to measure disadvantage. The ABS broadly define relative socio-economic advantage and disadvantage as people's access to material and social resources, and their ability to participate in society. In 2016, Darebin had a relatively high SEIFA score of 1,004, on par with the neighbouring municipalities of Moreland (1,014) and Whittlesea (991) and below that of Yarra (1,035) and Banyule (1,055). Darebin's score is not evenly distributed across the LGA, with Northland Activity Area, Reservoir (Oakhill) and Kingsbury, Darebin's most disadvantaged suburbs, having SEIFA scores of 840.5, 937.5 and 938.4 respectively. The 'south to north distribution of disadvantage' describes the trend that disadvantage increases as you travel further north in Darebin.<sup>19</sup> The areas of Preston (East) and Reservoir (East) also showed less favourable outcomes on key health indicators, highlighting a social gradient of health that also follows the south to north pattern is also present within Darebin.<sup>20,21</sup>

### Heat vulnerability index

The heat vulnerability index (HVI), updated in 2018 by RMIT, CSIRO and the Department of Energy, Environment and Climate Action (formerly DELWP), as part of the Clean Air and Urban Landscapes program, includes indicators of exposure to heat as well as sensitivity and adaptive capacity measures. Vulnerability ratings are determined by the sum of the aggregated indicators and are scaled from 1 to 5 (1 = low vulnerability, 5 = high vulnerability). Indicators include vegetation, roads, population density, number of elderly, very young and those in need of care, as well as economic indicators within the SEIFA index.<sup>22</sup>

The impacts of urban heat are felt less in areas with low social vulnerability, which typically have a low proportion of younger or older people and/or higher levels of socioeconomic development. High social vulnerability intensifies heat health risks as people are less able to adapt.<sup>23</sup>

While the City of Darebin has an HVI of 3 out of 5, towards the middle of the heat vulnerability spectrum, **Figure 1** shows how the distribution of vulnerability across the local government area is more complex, with

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<sup>18</sup> The National Centre for Social and Economic Modelling defines 'housing stress' according to the 30:40 indicator. That is, households in the lowest 40 per cent of incomes who are paying more than 30 per cent of their usual gross weekly income on housing costs are in housing stress.

<sup>19</sup> Darebin Health and Wellbeing Profile 2021.

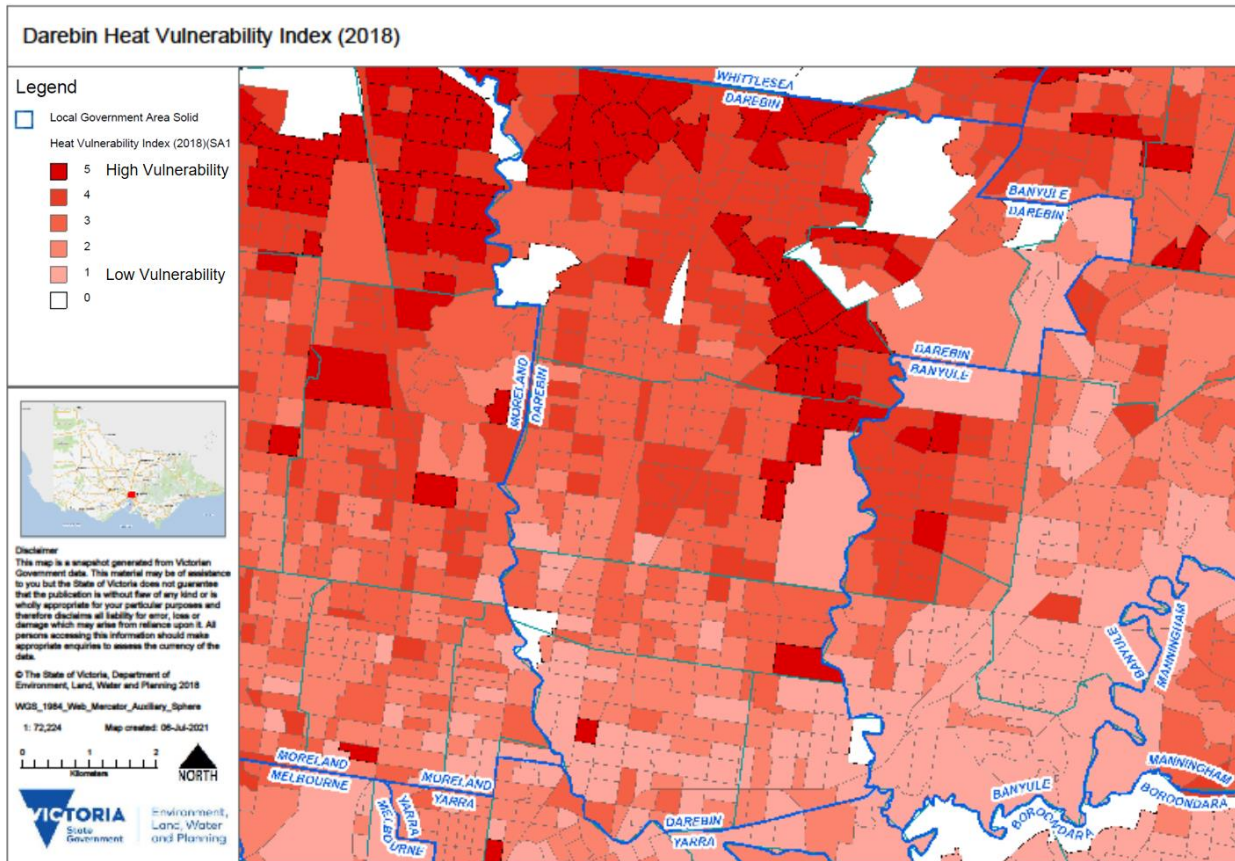
<sup>20</sup> Ibid.

<sup>21</sup> This report is based on work undertaken in 2021, prior to the release of Jesuit Social Services' Centre for Just Places latest *Dropping Off the Edge* (DOTE) study. DOTE (2021) provides a different set of indicators to SEIFA, including a focus on justice issues, and has since demonstrated how communities in locations of high socio-economic disadvantage also experience higher heat vulnerability and lower green canopy. In Darebin, this includes the northern and north-eastern postcodes. For more information, see <https://www.dote.org.au/>.

<sup>22</sup> Sun, C, Hurley, J, Amati, M, Arundel, J, Saunders, A, Boruff, B & Caccetta, P 2019, Urban Vegetation, Urban Heat Islands and Heat Vulnerability Assessment in Melbourne, 2018, Clean Air and Urban Landscapes Hub, Melbourne, Australia.

<sup>23</sup> Ibid.

some areas around the North and North-East designated high vulnerability (HVI of 5 out of 5). These hot spots with high HVI largely correspond to areas of low SEIFA scores.



**Figure 1.** The heat vulnerability index (2018) distribution across the City of Darebin. Note the increased vulnerability in the North and North-East of the LGA.<sup>24</sup>

<sup>24</sup> This map accessed via the Victorian State Government *Cooling and Greening Melbourne Interactive Map*. Available: <https://www.planning.vic.gov.au/guides-and-resources/data-and-insights/cooling-and-greening-melbourne-map>

## Part II – Methodology

### 2.1 – Engagement approach

From 2021 to 2022, a phased engagement process was delivered in order to effectively reach priority community cohorts and achieve the desired engagement outcomes (**Figure 2**). Balancing the subtlety and complexity of engagement was a key focus for the research team and project partners, in not only attempting to understand and articulate the experiences of a wide range of different communities but also, the intersecting social and economic factors that constitute vulnerability to climate impacts.

The phases included first engaging the community and health services sector across Darebin through climate resilience capacity building workshops. This was followed by a relational collaborative-design process, with community and health service staff and community leaders to identify engagement opportunities through their networks and to develop engagement activities, materials, content and language catered to specific groups. Full demographic data can be found in **Appendix 2**.

This approach enabled the project team to leverage the trusted relationships held by those working in the community and provided access to the voices of those harder to reach through traditional, more static engagement methods. It also ensured the engagement was relevant to the diverse cohorts engaged, while building the capacity of the community sector to identify and respond to the community's needs. Importantly, this approach established and strengthened relationships between the Climate Emergency Programs team of Council and the community sector to support future climate action and adaptation projects, including avenues for community-led climate-related projects and partnerships and the development of the Darebin Climate Emergency Plan 2022.

The engagement also served as an opportunity to share information about existing Council resources and support and encourage community and health services to distribute information to their participants. The researchers shared the Darebin Council *Energy Efficiency and Energy Assistance Tips for Renters* flyer to around 150 residents in Arabic, Greek, Vietnamese, Chinese and English. The engagement often provided a platform for the researchers (or Council when present) to speak to groups and individuals about the support available to them, pointing to specific resources and highlighting next steps to check eligibility (e.g. for the \$250 Power Saving Bonus). Many more flyers were shared by the community or health services involved (e.g. Your Community Health) or displayed in their public areas.

This engagement report combines the key findings from Phase 2b (see **Figure 2**) in terms of process and outcomes, including lessons and opportunities for partnership building (i.e. assessing the effectiveness of engagement methods) as well as findings from the overall engagement process (i.e. interviews, focus groups, surveys etc.) to recommend key areas of need for at-risk communities.

This engagement report is a deliverable for Phase 3, reflection and evaluation.

### 2.2 – Ethics approval of engagement approach and research methodology

Ethics approval for the study was obtained through Jesuit Social Services' Ethics Committee. This included review of the methodology and engagement plan, line of inquiry, interview run-sheet and survey questions, and the participant information sheet and consent form. These documents are available on request, with the survey questions detailed in **Appendix 1**.

Prior, informed consent was gained from all participants. Critical information provided verbally or in writing included the following:

- the aims of the project, the organisations involved and the funding source
- that anonymity and confidentiality would be maintained
- that participation is voluntary and the participant can stop at any time

- that a request can be made to delete data within one month after the interview, discussion or survey
- that the data from the research will be stored securely at Jesuit Social Services and will be destroyed 5 years after the project has ended
- and that the findings from this study will appear in a report for Darebin City Council who may decide to use statistics and quotes from the report for public facing materials such as presentations at Council meetings or in their Climate Emergency Plan. It was also made clear that Jesuit Social Services may use this information to contribute to public reports, advocacy, guidance and training materials, or academic publications.

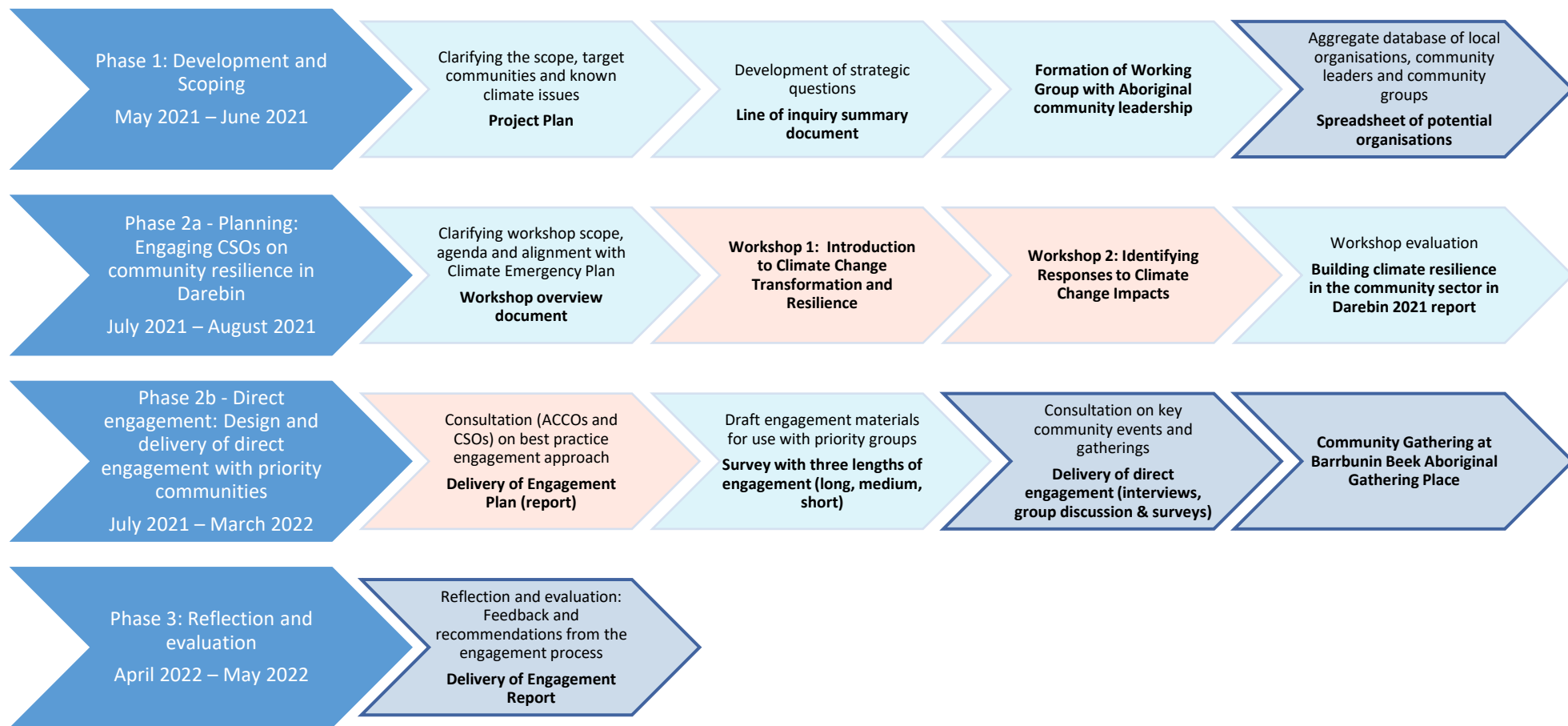


Figure 2. Key project phases. Source: Authors.



Centre for Just Places and Darebin City Council (Climate Emergency Programs team)



Centre for Just Places, Darebin City Council (Climate Emergency Programs team) and Bridge Darebin



Centre for Just Places with support from community service organisations (including the Council more broadly and Bridge Darebin)



## 2.3 – Engagement activities

A range of engagement activities were undertaken with all three priority cohorts: People from migrant and refugee backgrounds, people aged over 65, and Aboriginal & Torres Strait Islander peoples. Several existing stakeholder groups were engaged across the research, including those convened by community service organisations, health services, and Council-run services. Engagement activities were conducted both face-to-face and online and included: self-directed surveys circulated through neighbourhood houses networks and other services (e.g. a food relief program); surveys supported by teachers, tutors, outreach staff and Council community development workers among others (e.g. in English language classes, a high school incursion, and door-knocking in public housing); 1-1 interviews (with Darebin residents often referred to the research team by community organisations); and facilitated group discussions (with older Darebin resident support groups, multicultural groups, faith-based groups and through neighbourhood house networks among others).

More details on the range of engagement activities and collaborative-design approach is discussed in **Part IV – Evaluation and reflection on methods**.<sup>25</sup> See also Appendix 1 and 2 for survey questions and demographic data.

## 2.4 – Limitations

A total of 234 participants were engaged through the direct engagement activities described above, as well as 34 staff from across 18 community organisations and Council through the Community Service Organisations (CSO) workshops. As the methodology varied in response to different cohorts and environments, in many circumstances participants were only asked to complete some of the survey questions (see **Appendix 1**). Subsequently, quantitative data should not be taken as representative of the cohort as a whole.

Collaboratively designing the engagement with each organisation allowed them to contribute to the shape of the questions put to participants, based on an understanding of what mattered to them. For example, heat health, climate change or extreme weather more broadly. This is reflected in the depth of qualitative answers for certain questions (such as Question 15 – Activities to keep cool on hot days see **Appendix 1**) and the limited responses for others. For the majority of organisations, it was recommended to focus on the impacts of heat during engagement activities.

Successive COVID-19 lockdowns were a significant challenge and delayed a number of engagement opportunities. While much of the Darebin community was able to shift on-line for work, learning and social connection, the researchers acknowledged that many of the target cohorts for this engagement may have limited digital literacy or access to digital devices and internet connection. The project timeline was shifted to ensure face-to-face engagement once COVID-19 lockdowns eased and efforts were made to contact individuals by phone for 1-on-1 interviews. 16 1-on-1 interviews were conducted, each between 45 minutes and an hour and 15 minutes, with residents who self-identified as being from the priority cohorts (see **Part IV – Evaluation and reflection on methods** for full details of the engagement process).

## Part III – Key findings – Lived experiences of climate change

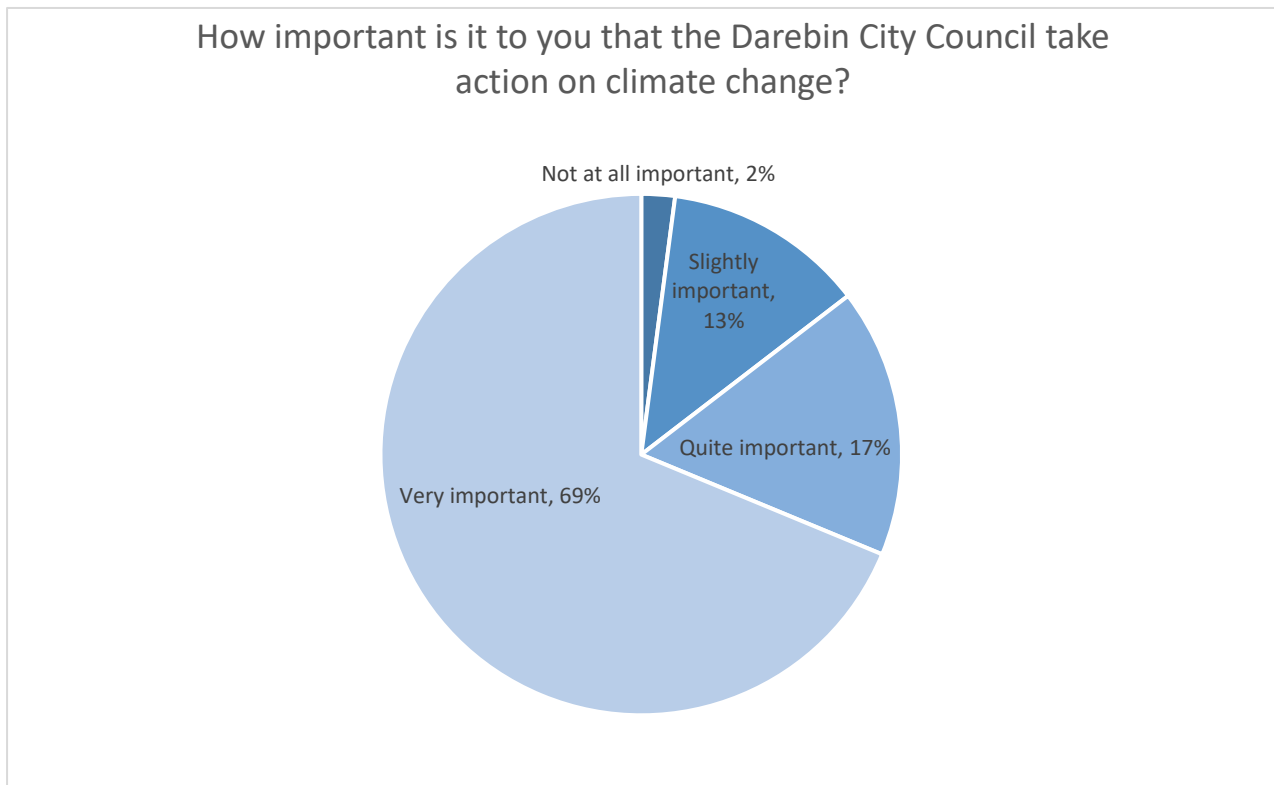
Engagement on the lived experiences of climate change in Darebin resulted in the identification of a wide range of impacts on health, wellbeing and community understanding of climate change and how best to respond to remain safe and well during extreme weather, particularly heat wave conditions. Community recommendations are summarised at the end of each section and collated at the end of **Part V**.

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<sup>25</sup> For a detailed breakdown of which cohorts were engaged, through which community partner, and activities undertaken, contact the Darebin City Council Climate Emergency Programs team.

### 3.1 – Climate change matters

Of the 48 participants that answered the survey questions on climate change, a majority were very concerned (39%) or quite concerned (33%) when thinking about climate change, and over two-thirds (69%) felt that it was important that the Council take action on climate change (**Figure 3**).



**Figure 3.** Responses on the importance of the Council taking action on climate change (%; n=48)

Observations of rising humidity, extended heatwaves, and increasingly severe storms were common among participants, along with concerns over biodiversity (for example, less grasshoppers and frogs), reduced rainfall and more variable weather patterns:

"Definitely with the humidity and the heat, not as much rain as we used to have. Climate change is drying everything [gardens] out."

One older participant who had her formative years in the 1980s recalled that while climate change was once only the domain of "hippie teachers", she was now incredibly concerned; describing the current state of the world as an "eerie feeling": "what I thought was going to be a problem in 100 years is looking more like 20 years."

Consequently, it was important to participants that Council take action for the next generation. One elderly participant shared that it was "quite important for the majority of people", as they believed others are and will be more affected by climate change than themselves. As another elderly participant emphasised:

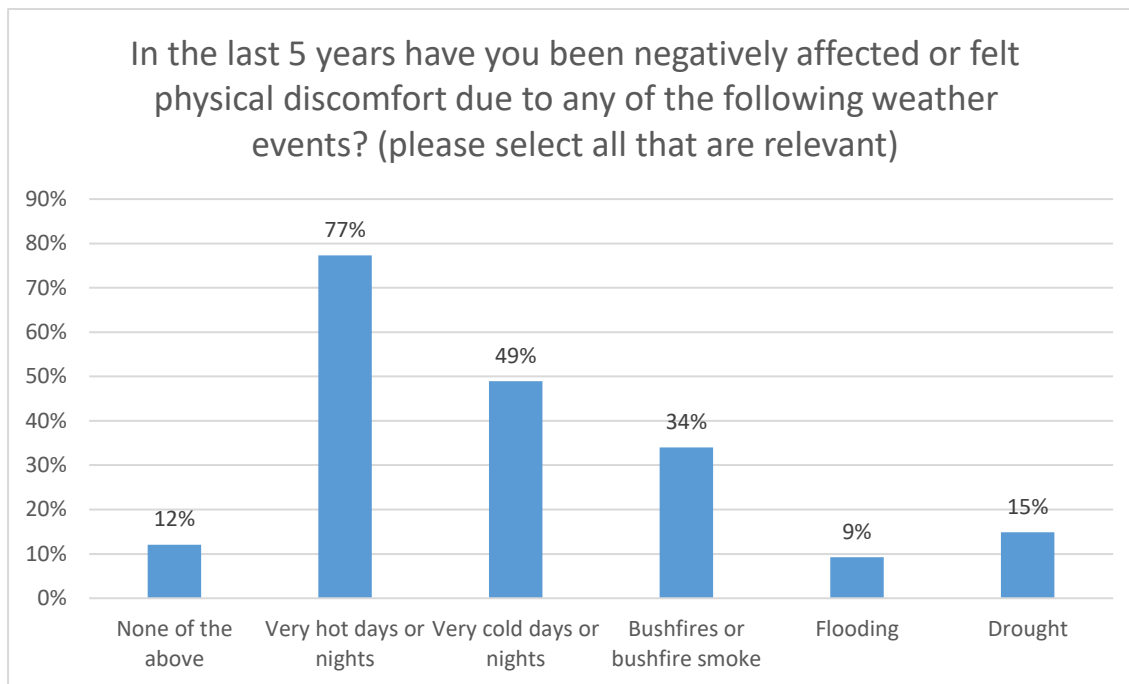
"It might not be my generation, but it can help the next generation. It will be that attention that could help our grandkids and everyone and the planet."

Participants emphasised, however, that this action could not come at a cost to those least able to afford it. One participant was concerned about the budget implications of the Council's climate action and the possibility that it might increase rates. Two others shared that it was important that the Council cut other budget line items to prioritise this action:

"We've got to work out what's important and what's not. We need to save the planet; that's what's important. And abolish anything else that doesn't need to be spent on...[Council] need[s] to get to the core of what actually matters and go from there."

## 3.2 – The impact of extreme weather events

A significant proportion (77%) of participants shared that they had been negatively affected by or felt physical discomfort on very hot days or nights (**Figure 4**). Overall, responses were skewed towards extreme heat events, which reflects both the survey design and participants' experiences, but also, the topical nature of the discussion given that engagement activities were undertaken in the lead up to and during summer.



**Figure 4.** Experiences of extreme weather events (%; n=141)

Five key themes about the impacts of heat and related climate change experiences were emphasised by participants in conversation and survey responses: sedentary lifestyles and social isolation, emotional and social wellbeing, trusted and targeted information into action, community safety and housing security, and community agency. A further health and wellbeing impact affecting smaller cohorts of participants included asthma and exposure to heat and bushfire smoke.

### 3.2.1 – Sedentary lifestyles and social isolation

#### What we heard...

*Heat traps people in their homes, contributing to sedentary lifestyles and social isolation*

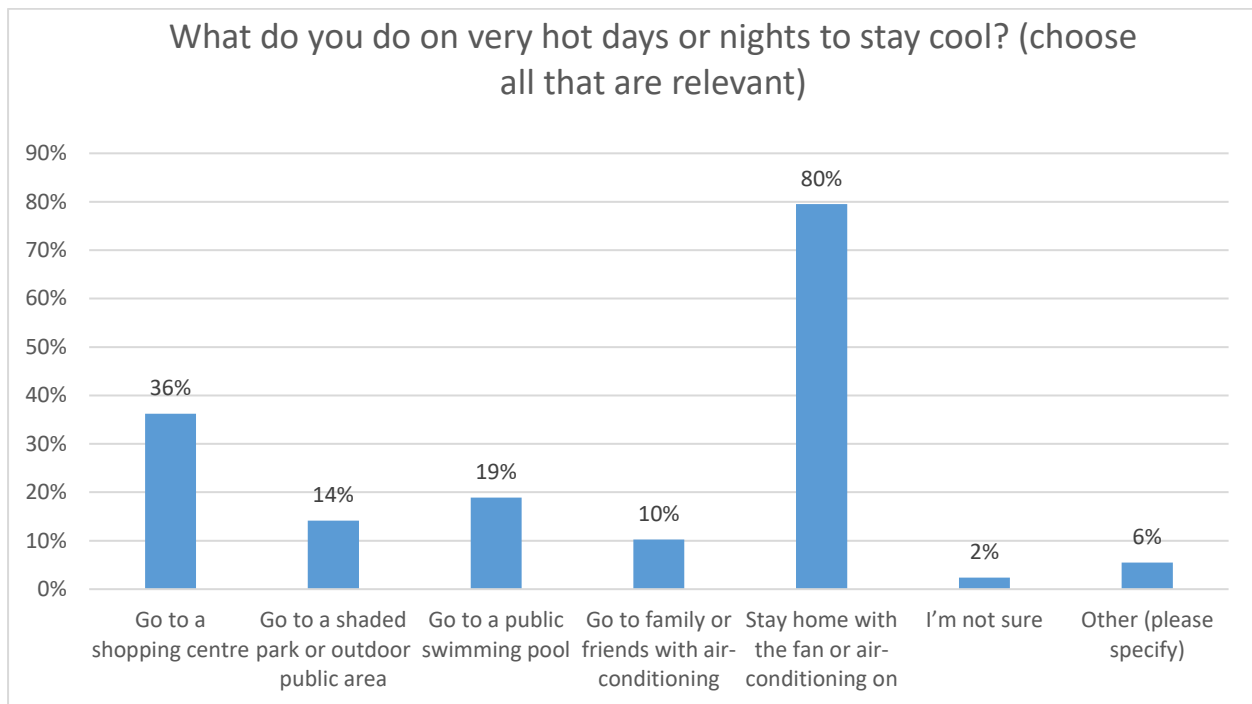
#### Forgoing activities to keep safe at home

Social exclusion and sedentarism were the most common refrains across consultation sessions. Many participants relayed experiences of forgoing social outings and exercise, with a significant majority (80%) remaining home on hot days and nights (**Figure 5**). Personal accounts of heat were regularly interspersed with experiences of COVID-19 induced lockdowns and conveyed a sense of isolation yet resignation about their inability to undertake regular activities:

"Most of the time we [elderly couple] stay home. Our state has been locked down so we are used to not seeing family for a long time."

"I'm a couch potato when it's hot. I don't move. If I have to do anything, it'll be early in the morning before the sun and the car are too hot. About 7am usually. As early as possible. But otherwise I don't go out. My neighbours drop in because they're all in the same boat. But I don't visit family or nothing. I hibernate in other words. I get cranky with myself because I think that I'm restricting myself. I think to myself that it'd be nice to go and sit in a café or in a cool area. But then I think that I've got to leave and get out the front door and I just can't handle it."

Indeed, many elderly participants expressed a desire to visit shopping centres on hot days but were deterred by the heat of the journey to them and the lack of seating once there.



**Figure 5.** Staying cool on hot days or nights (%; n=127)

### Services responsive to current weather conditions

The impact of extreme heat on everyday activities was a common point of discussion. Remaining at home was described as a necessary precaution for many elderly participants, largely in relation to physical safety and pre-existing medical conditions. Heat was often expressed as an immobilising experience not only in relation to the level of physical discomfort experienced by older people but also the lack of local services and activities available at cooler times in the day (early in the morning or late at night). Exercise, food shopping and appointments were regularly postponed or maintained only through the support of family members or other networks, such as Council's home support services.

Sedentarism was often described through having limited choice. Inactivity was exasperating for many, with participants reflecting on the challenges of being unable to go outside but simultaneously, feeling trapped in a thermally inefficient home. For elderly participants and those with chronic health conditions, staying at home was a refrain commonly reinforced by their doctors and CSO messaging. Experiences of heatstroke, fainting, skin cancer, limited mobility, and light sensitivity meant that remaining at home was positioned as essential to their wellbeing yet simultaneously, was described as putting them at greater risk of harm due to their home's poor solar orientation, lack of insulation, no access to air conditioning, and the cost of electricity.

"Because I have migraine and I'm scared to have heatstroke again. I experienced the heat stroke during travel. I am a midwife, have to walk, going to see pregnant mother...feel very hot on my head, can't breathe freely, then collapsed because of the heatstroke and went to the hospital."

"... it's way much hotter outside without any shelter. Headaches sometimes, feeling dizzy sometimes. Not just because of the heat, also because of the ultra-violet."

Further drivers of sedentarism and isolation included cultural and community safety. Many participants expressed an interest in going to their local pool or shopping centre on hot days but felt uncomfortable in these spaces. For a young Sudanese participant this was due to having to "cover up" and feeling more at ease at home where she could remove her hijab. Elderly participants living close to Reservoir Leisure Centre were not confident in wearing swimsuits nor in swimming in crowded places and alongside younger people.

"Some of us are not physically able to or not feeling confident in ourselves to wear swimmers."

Accessibility and inclusion were identified as key, not only in mitigating the impacts of extreme heat but also, in ensuring ongoing connection with those most at-risk of social isolation. For the facilitator of an elderly men's group:

"On hot days, we keep our groups running as we know that most of our clients don't have access to air conditioning. Clients are picked up in taxis or air conditioned buses and brought to the centre where we can make sure that they are hydrated and keep cool."

### **Communities in focus: Localised support and services**

Shelter, shade and seating were key to facilitating exercise and social connection for elderly residents at a public housing complex in Darebin's north. Extreme heat was associated with being "locked up" in their apartments as, without these amenities, they remained home with their blinds down and air conditioners or fans on. Sensitivity to the heat meant that even a communal garden was left to wilt in the summer months.

Yet for these residents, extreme heat also presented an opportunity to draw on the assets of their community and neighbourhood to make it more inclusive, safe, and connected. Shade sails, communal cool areas, and sheltered neighbourhood seating were proposed as easy ways to encourage elderly people to stay cool and come together, especially given the proximity of residents to one another:

"More trees around the parks so there's more shelter. I went for a walk on a track and it was ages before there were trees or anything else that I could shelter under. And that's only 5 minutes from here. There's not even a seat or a water fountain to drink from. Because of our age, we try to do a bit of exercise and go for walks but when you've just got a hat and water bottle, you can't go very far."

"We've got a lovely little community where I live. We help each other in that way. The building is cool in the foyer part. And we say that we wish we could drag our beds in and sleep in the foyer because it's really cool."

For one resident, this included providing elderly people with subsidised or free access to a nearby pool as well as specific swimming hours or areas. Trusted relationships with groups including neighbourhood houses and community health providers were also key to making sure people were cool and connected:

"We go across to the neighbourhood house. They're lovely people. They listen to you. Not that I go over and tell my problems, but they listen to you and try to help where they can."

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## Recommendations to address social isolation and support active lifestyles

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- 1 Extend opening hours for local businesses and community services to cooler parts of the day
  - 2 Engage local businesses to install additional seating, for example, shopping centres
  - 3 Tailor recreation activities to priority cohorts, for example, swimming times specifically for women or elderly residents
  - 4 Provide subsidised or free access to recreation facilities for those at-risk during heat events, including the elderly, low-income households, and people with disabilities
  - 5 Increase the amount of shade and seating around over 55s residential housing, including green canopy and shade sails
- 

### 3.2.2 – Emotional and social wellbeing

#### What we heard...

*Extreme weather equates to extreme stress and anxiety for many in the community.*

#### Anxiety

Heat and bushfires were agreed on by many participants as triggers for psychosocial stress. Feelings of fear, anxiety and exhaustion related to both direct, lived experiences but also, as experienced indirectly through media depictions of “the state of the world and where we are headed”.

Narratives of fire were especially triggering for participants. Accounts of news reporting or personally witnessing bushfires conveyed futility and sadness at the suffering induced in these “horrifying” events. Bushfires and bushfire smoke were stressors due to the proximity of family members to fires, a loss of income and social support from being unable to go outside due to respiratory illnesses such as asthma.

Several participants also shared accounts of being distressed by the Black Summer fires of 2019/2020:

“I found the smoke very anxiety inducing, thinking about the people that were living in or fleeing communities that were directly impacted. The loss of animals, vegetation and trees was devastating and the feedback loop to increasing carbon emissions and the potentially scary future ahead for all was front and centre every day when I woke up to the smoke.”

“The first time I felt the bush fires and smoke was in 2019. It burnt so many houses in several months in a row and I kept donating money for community enterprise foundation.”

“Not affected physically but news everywhere – feel very concerned. Saw videos of animals suffering which was very concerning.”

#### Risk and concern for others

Risk was subsequently a stressor that impacted participants at both a direct and indirect level. For example, a number of participants were fearful of their family and other community members being caught somewhere and being injured or killed during extreme weather events. Participants from one group described this as triggering anxiety and post-traumatic stress disorder (PTSD) to the extent that they would not invite people to their home. For example, one grandmother does not suggest her children or grandchildren visit her during heatwaves in case the car breaks down on the way and leaves them stranded in dangerous heat.

Children, elderly people, palliative care patients and people with mental illness or intellectual disabilities were key groups of concern, specifically in their ability to access timely, relevant and accurate information

and support in response to extreme weather or to enable them to stay safe and well in extreme conditions. Two elderly, female participants shared;

"[Extreme heat is] very, very difficult if you are not well like me. I am scared to die by myself...what can I do?"

"If very hot or very cold, especially for older people, have to stay home for safe. Because if we older people go out with extreme weather, after get home, easy to get sick, no good."

## Disruptions to regular support services

Disproportionate risks associated with the intersections of age and income-level were commonly felt by elderly participants and their support teams. One support worker was exasperated by the lack of cool refuges for their elderly clients who require assistance in being fed and who have also been socially disconnected by the pandemic; limitations contributing to their clients being "frightened and anxious". For another, there was a worry that their current facilities, despite being cool refuges for their elderly clients, were ill-equipped to handle extreme heat due to the lack of back-up power systems at their sites. Another recalled her sister's experience as a palliative nurse:

"There is a rule that nurses are not allowed to go out to patients on certain code days. Sick and dying people are left by themselves. They are the vulnerable people – people should be taking them out of those areas."

An elderly woman described the impact of such stoppages from her perspective, with notification of the disruption extended to the support worker but not her:

"I get a home help lady and if it is 38 degrees they have to stop work. They send a message to her but not to me. Floor can be wet but she has to leave if it is too hot, so I can't walk on to the kitchen floor because it's not safe."

Anxiety, concern about risks to themselves and others from extreme weather or disruptions to services were also discussed in the context of COVID-19. Participants were "scared" of receiving high energy bills and of becoming ill from accessing public indoor spaces, such as shopping centres and public transport. For families, this extended to a sense of helplessness in being cut off from extended childcare supports, the inability to make their home comfortable for sleeping and working, and the financial costs of children's sporting seasons being cut short.

Such stresses were often articulated as fatigue and tension in households. Irritability, weakness, and lethargy from a loss of sleep were widely felt, particularly for those with families or chronic health conditions. As one elderly resident from Bundoora shared:

"I use a fan but I can't leave it going all night, it affects my asthma. I wake up struggling because of the heat...if you don't get a good night's sleep you wake up like you haven't been to bed... tired and lethargic."

Another woman shared how her thermally inefficient house prevented her from sleeping and studying, and led to tensions within her home:

"Sometimes I go to Northland [Shopping Centre], I just sit there in the A/C. Don't feel like coming home. I carry my food. I do my studies. I can't sit in the house, it is so hot. Because of the roof also... Sometimes there can be a fight with my husband. I say, please ignore me if I fight with you because of the heat. Please understand."

## Recommendations to support emotional and social wellbeing

- |   |  |
|---|--|
| 6 | Improve communication about what happens when Council support workers are unable to work, for example, reduced services or service stoppages due to heat events                                |
| 7 | Train Council community workers around the risks of service stoppages, including ensuring that clients have other points of contact and that tasks are not left incomplete                     |
| 8 | Provide heat health training for staff and volunteers at local community health service providers, and distribute "useful things" such as sunblock to community members through these services |
| 9 | Advocate to Federal and State governments on the physical and mental impacts of climate change for local communities   |

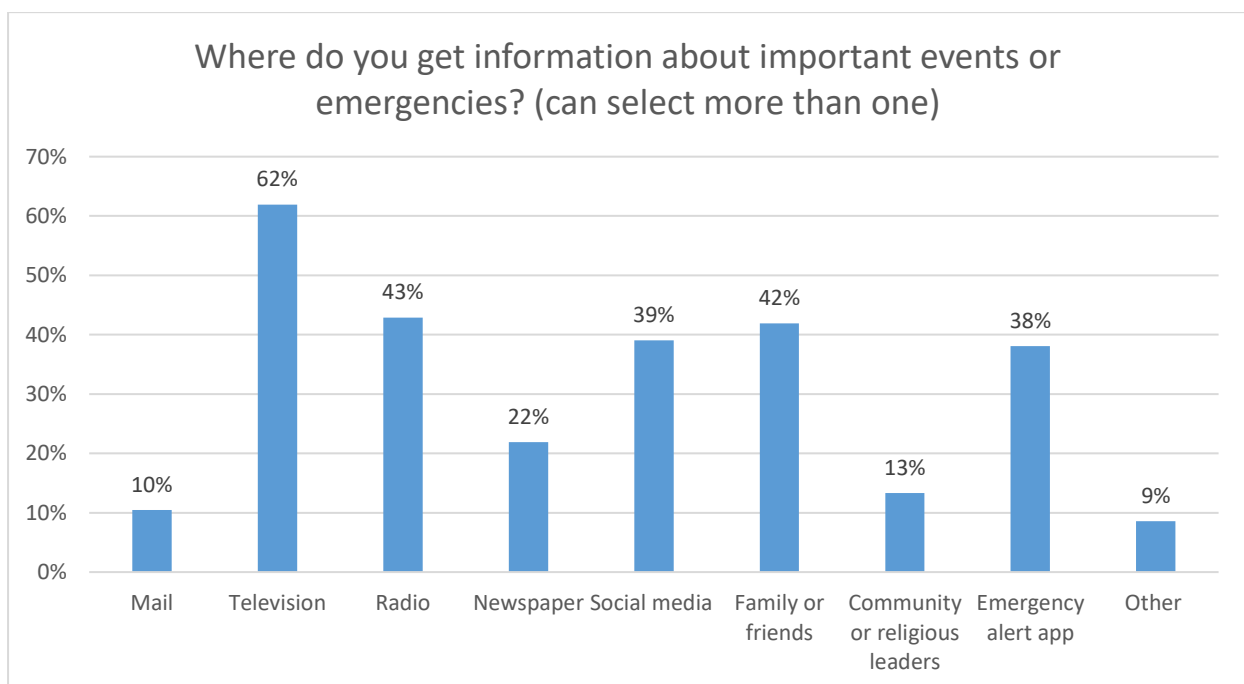
### 3.2.3 – Trusted and tailored information for community safety and wellbeing

#### What we heard...

*Trusted and tailored information is important for community safety and wellbeing*

Most participants (82%) reported having enough information to take care of themselves on hot days (n=101) with the majority accessing information about extreme weather events via television (62%), radio (43%), family or friends (42%), social media (39%) or emergency apps on their phone (38%) (Figure 6).

Rather than a need for more generic information about heat or climate change (such as flyers), participants were keen to engage with resources that spoke about their local community (such as newsletters) or in relation to their specific needs (especially bill support) during extreme weather events.



**Figure 6.** Information sources for extreme weather events (%; n=105)

#### Localised information for local energy needs

Participants felt that Council had a key role to play in raising awareness of the localised risks of climate change and providing pathways of support, especially for elderly residents, those with low-income, or who speak English as an additional language. For example, many participants were keen to have Council



staff attend social gatherings at local CSOs to provide resources and answer questions about utility bill support, solar installation and maintenance, and the Solar Saver program.

This was important, as participants felt that generic information provided by service organisations and Council did not respond to their particular needs, such as the promotion of rooftop solar to reduce electricity bills:

"If only two people live at home, we don't use too much electricity. The equipment has to be changed after 10 years. Solar is more expensive than electricity. We [elderly couple] were told we had to pay \$3,000 for the solar but the electricity bill each year is not much. The cost doesn't make sense for my home."

"In winter, [elderly people] weren't using any heating because they couldn't afford the bill. Too many pensioners couldn't possibly [install rooftop solar]. On \$900 a fortnight after food, rent? Absolutely no way! Subsidise fans for people."

## Common sense adaptative measures

Participants were well informed about "common sense" approaches to keeping well during extreme weather events, with one elderly woman elaborating that she didn't believe people would willingly put themselves in situations where the weather made them unwell. Prohibitive electricity costs meant that most participants were already undertaking measures prescribed by CSOs and the Council, such as how to keep cool during hot weather:

"At night I open windows as I have metal shutters and when the sun comes up, I close them. I also have a personal, hand-held fan that works really well. My house is double brick, high ceilings. I have shutters that are good for security, noise and keeping heat and cool in."

"I open a window at night and it will stay cool until afternoon. I only need a fan. I turn AC [air conditioner] on for a short time then fan. I can tolerate heat more than cold. I have roller shutters outside, that makes a big difference."

This extended to how participants kept warm during cold weather. One family purchased electric radiator heaters for use in their children's bedrooms but only used them for a short period in the morning, with layers of clothing worn to bed. Wearing layered clothing and bedding, eating warm foods, and using spot heating options, such as hot water bottles and electric blankets, were common knowledge for most participants:

"I put only the hot water bottle on my feet under the doona so I feel warm. I don't want to use the heater because I don't want to get high my electric bill."

Adaptation measures were also informed by prior exposure to extreme weather. For example, participants from migrant backgrounds or from hotter regions of Australia discussed their past experiences to inform what information and actions needed to be considered. One participant shared that in India they were "accustomed" to hot weather, with ceiling fans and scheduling sporting activities in the evening as ubiquitous ways to live with the heat.

## Privacy and trust

Many households were concerned with privacy and trust. This included where the information came from and by whom it was delivered, especially for expensive adaptation measures like solar. Elderly participants were wary of sharing personal information given the rapid increase in phone and text message scams: "if you get too many calls you tend to ignore them." One participant shared that they had received multiple calls from roof-top solar installers offering a quote and access to government incentives but did not trust the callers and assumed they were scams.

In-language information, as well as avoiding top-down information sharing, were also important for some participants. Over half of participants (54%, n=127) spoke a language other than English at home, with Mandarin and Arabic the most commonly spoken languages (**Appendix 2**).

"I used to live in a 4 bedroom house and didn't know why it was so hot or why my bills were expensive. My sister suggested closing the blinds and using the security door for breeze. Unless given the information it's hard for us to do those things. Don't dictate what you should do... say 'if you want to reduce bills this is what we suggest'."

"I have the Italian radio that explains in Italian. You can understand properly what they say because sometimes in English we lose the word a lot. The church, friends, my daughter...what I can do, what I can't do"

## Targeted information and supports

There was concern for the well-being and safety of those community members with limited ability to digest passive information such as flyers. One participant shared that they had witnessed a neighbour with a mental health diagnosis leaving their house without shoes and in a warm jumper in the middle of a heatwave; emphasising the need for direct support in addition to information provision.

A targeted, specific, and community-centred approach to information dissemination was subsequently emphasised, with the perception that Council was "too big and does not have enough time." For elderly participants, this extended to reviving the local newsletter, developing "buddy" systems as well as having trusted community service organisations as their key point of contact:

"I am comfortable [being contacted by phone] – here [CSO] first and then the Council."

"The [CSO] needs to be resourced better for everyone's sake, not just ours."

"We need a buddy system. Being ready to share information, like fire ready, but climate change ready."

### Communities in focus: Pathways for support

A lack of in-language support and referral pathways had significant impacts for one elderly resident living alone in a small public housing unit in the suburb's east. The participant was well aware of the importance of accessing cool spaces during extreme heat events, yet with no air conditioning, limited English proficiency and income, and several underlying health conditions was limited in their ability to do so.

The participant was not aware that their pre-existing medical conditions might make them eligible for the installation of air conditioning in their unit, nor of how or where to make this request. Their existing support services were not aware of the precarity of their situation.

Remaining at home was necessary due to the relative heat outside, with air conditioning a preferred though perceived "idealistic" solution to their comfort and wellbeing at home. Visiting a local pool was "indeed too expensive...[I] need money, I'm trying to save money." Short-term coping strategies, including a weekly card game and the occasional bus trip were instead adopted: "on the bus it's all good, take a bottle of water, take a fan."

With their permission, the Centre for Just Places team shared the participant's circumstances with the Council and their local community health service. The participant is now being supported by the health service to apply for air conditioning as a special accommodation requirement.

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## Recommendations to support access to and appropriate provision of information

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|----|--|
| 10 | Translate and interpret information about extreme weather into different languages, engaging with local community members to ensure information addressed their needs and comprehension  |
| 11 | Attend community groups and residential complexes, such as the public housing complexes, to encourage questions and explain pathways for support   |
| 12 | Provide accessible information about navigating solar installation and maintenance, as there is concern "some companies [are] tricking people... still have to pay a lot out of pocket". Disseminate this information through trusted relationships. |
| 13 | Facilitate sessions with elderly people about the supports they can access, such as free air conditioning installation for those with medical conditions   |
| 14 | Reactivation of local community newspaper or newsletter, specifically for distribution within elderly community groups (suggested fortnightly)   |
- 

### 3.2.4 – Passive heating and cooling for thermal comfort and safety at home

#### What we heard...

*Passive heating and cooling measures contribute to thermal comfort and a sense of safety at home*

Installing passive heating and cooling technologies, such as external shutters, were identified as contributing to both the thermal comfort and sense of security for participants when at home. Here, community safety was understood as a self-identified feeling of security and wellbeing.

#### Addressing intersecting needs

Participants drew on experiences of COVID-19 to highlight the disproportionate impacts in having to remain at home due to disability, age, or pre-existing medical conditions. Spaces such as shopping centres were perceived as being "unsafe" and "dangerous" by participants due to the crowdedness and lack of seating areas for those with limited mobility.

Approximately half of respondents had adequate heating (52%) or air conditioning (47%) to keep their homes comfortable. Of those who answered that they had air conditioning at home, almost a quarter of participants (22%) reported that they used it infrequently due to running expenses; a similar proportion to those with heating at home (27%).

Those without heating and cooling were largely concerned about the cost of running such devices, health impacts of running older appliances, or were unaware of their eligibility for rebates, concessions, or new appliances.

Elderly participants emphasised measures such as security screens, blinds, fans and external shutters as simple and relatively affordable ways to help to keep people both comfortable and safe in their homes:

"I worry about [opening windows at night]. The [communal] clothes lines are right outside my flat, so I need better security screens so I can open things up."

"[Air conditioning] is too expensive. Expensive to run too. I keep the windows shut, blinds down to block out the heat. Just have fans."

"All my windows [in brick veneer home] have roller shutters. I roll the roller shutter doors down and close the bathroom and toilet door. 10-15 degrees difference between the inside and outside temperature."

This last participant shared with the group that closing the bathroom door was key because the exhaust fan leaked heat from the ceiling cavity into the house.

One elderly participant living in public housing shared that after two years of arguing the case to the Department of Housing with advocacy support from a local CSO, air conditioning was installed in their living room. More recent requests to repair a broken curtain in their bedroom – which has no air conditioning – have been not been answered; the participant describing their bedroom as “unbearable” during hot weather. Another elderly participant in their own home similarly requested Council support to

## Uneven risk – location and age

Personal risk was a key factor in these discussions. A young couple described their public housing unit as a “hot box”, being “sandwiched between the floor below radiating heat up and the floor above radiating heat down”. Without air conditioning, they described how they “sit here at 9pm drenched in sweat”, relying on cold showers and sometimes sitting in the basement to escape the heat. Security and safety were key concerns, with the couple describing how despite there being “no respite”, they choose to keep the front and back doors closed to any breeze because people use box cutters or bread knives to break in through flyscreens and security screens in their complex “so easily.”

Elderly participants in particular highlighted how this risk had changed over time. Sleeping outside or in internal passages with the doors open were common coping strategies in the past. However, higher density living, the loss of surrounding vegetation, and the lack of police presence and street lights were discussed as risk factors to personal safety, as well as women living alone in their old age. Two older female participants shared:

“When my husband died, one year, I did not sleep at night.”

“I [have] back door and front door security doors but I’m still listening because I don’t feel safe. Scared people are going to come in. When we came to Australia we used to leave every door open... things have changed. Not many police around at night time. Never see the police, if robbers come in you can do nothing.”

### Communities in focus: Fit for purpose thermal measures for public housing tenants

Ensuring fit for purpose thermal measures was a priority for people in public housing with limited means or capacity to retrofit their homes. This included the siting of appliances, the limited options for backup when appliances fail, and the need to upgrade to more energy efficient and user-friendly devices.

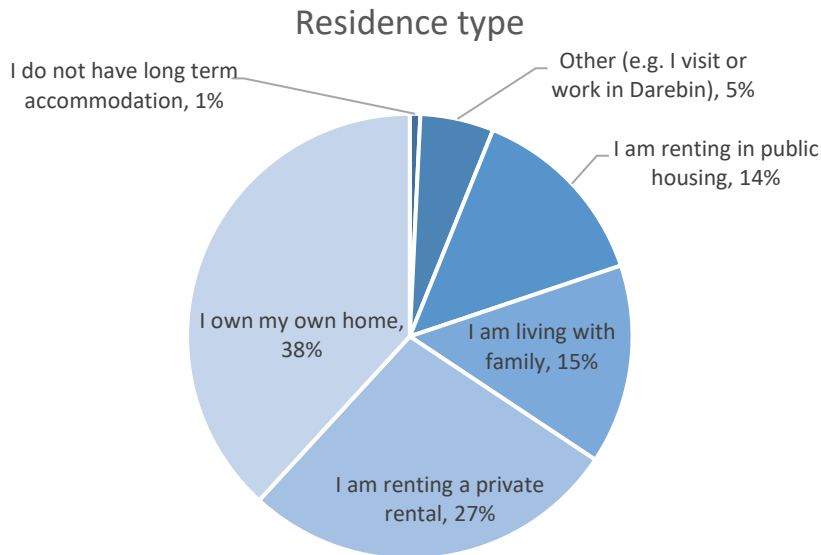
Aging and poorly situated appliances had significant follow-on impacts for one elderly tenant. Windy days often cause the pilot light on her government issued water heater to go out. Until a neighbour showed her how to relight it, she waited up to 2 days for a technician and paid \$20 per call out. Without hot water, she would heat water on the stove and carry it to the bathroom; placing her at risk of burns and slipping.

Fear of a gas leak from her aging gas heater means that she does not use the appliance, and during cold weather, instead runs a hot bath, sits on the couch with a blanket over her, and sleeps with an electric blanket on the lowest setting.

Worn external blinds means that she can no longer cool her home as readily as before and, with an air conditioner sited incorrectly in her living room and no shaded park or outdoor areas near her, she has advocated for more neighbourhood shade to help keep residents cool.

## Renters – additional barriers to low energy adaptation measures

Home ownership often informed the extent to which participants experienced thermal comfort at home. Specifically, in relation to their ability and agency to implement their preferred adaptation measures. Over one-third (38%) of participants owned their own home, with a similar number (41%) in private and public rental accommodation (**Figure 7**).



**Figure 7.** Participants' residence type (%; n=131)

For participants in rental properties, there was a reticence to ask their landlords to make structural improvements to their homes. One participant discussed the difficulties of living in an industrial area within Preston and having to cover themselves for religious reasons, with "smoke" and "bad air" preventing them from opening the windows on hot days. A request to their landlord resulted in an air conditioner being installed in their kitchen, but they have since found the device "very expensive to run."

Several participants from migrant backgrounds were equally cynical of landlords, preferring to "keep their mouth shut" to avoid the possibility of rent increases. Participants highlighted that while landlords might put a measure to cool a house into a property, like an air conditioner, it was of little value to those who could not afford the associated bills. Insulation and window shading do not add costs to living in the dwelling for tenants:

"I don't want to [ask the landlord to] do insulation work to help me reduce my bill and consumption of energy because her first move will be to increase the rent."

"Inverter [air conditioning] system is just for the landlord to have peace of mind for charging high rent."

Council fee structures and tenant advocacy were two pathways identified as enabling greater access to such measures. Participants strongly believed in the expansion of landlord and public housing obligations to include external shutters and low-energy retrofits for thermal comfort and safety. This extended to the role of the Council in making these measures more affordable and accessible:

"Look at fee structures by Council. In the heritage overlay in Thornbury. Can't install flyscreens or security doors without a permit. Council fee [is] \$202 plus documentation costs... same costs to install solar or change windows. Take away a fee like that."

## Communities in focus: Engaging landlords for a thermally comfortable rental home

When it came to envisioning a thermally comfortable home, most participants in rental properties were clear on one ask: bringing their landlord to the table. Not only to understand their obligations to their tenants, but to highlight the needs and current actions of those living in rental properties.

For example, participants from one multicultural group emphasised the need for landlords to better understand how tenants were using the properties being leased. Most of the group were reluctant to use air conditioners or heaters, both for cost and their comfort at home. For example, one tenant shared that, while their landlord had installed an air conditioner, they never used it:

"I am paying good money for this place. Because being on the first floor with all the trees in summer – I love it. It's better than being on the beach."

Rent had steadily risen over years for this resident but they choose to reduce other expenses to stay in their house that is comfortable through summer due to its design, location and surrounding green canopy. Currently, they spend half of their pension on rent and are always seeking ways to reduce their bills:

"I plan my showers one hour ahead, turn off water heater unless not needed. I switch off the fridge for a few hours. Halved [my] electricity bill."

Those who did use heating and cooling appliances tended to limit their usage to evenings and only one room in the house:

"I have one A/C unit in the living room so when it was super hot I have to use it because I was boiling. I had to move a mattress to that room and my husband stayed in the bedroom. It was quite uncomfortable because I am not pro-A/C. Because of that my electricity bill went up. It is uncomfortable – when [I] don't sleep, my headaches can be quite debilitating."

"[I] warm up a brick and keep it with me. Brings temperature up 2 or 3 degrees in the room. [I] use hot water bottles before going to sleep."

Means of preventing draughts, including double glazing, combined with a need for discounted energy pricing in the evening were mutually agreed upon asks. As was the role of the Council in helping landlords to estimate the costs of retrofitting and educating them on tenant needs:

"My landlord is an old lady, pretty sure she doesn't have a clue that [the] house is not insulated at all...I'd be interested in seeing if the Council could help the landlord to estimate the cost to insulate the house better than it is."

## Passive measures are better for the climate

Access to enhanced security measures such as shutters were consequently of high importance to participants. Passive heating and cooling measures, including shutters and curtains, were not only desired for affording safety and comfort but also, out of a sense of responsibility and understanding that high energy measures impacted on the climate. As one participant explained, "the way we [currently] solve the problem, adds to the problem." Another elderly participant emphasised the resourcefulness of their generation and that elderly people preferred approaches that do not "cost money and use energy."

"I try not to use [air conditioner] because it might worsen global warming. I try to cool down without the air conditioning. Especially the [air conditioner] at my house. I can't control it separately

because if I turn it on it cools down the whole house but with just myself at home it's such a waste."

"During night time we like to avoid using [air conditioner] because of environment...So we put water bottles in the freezer so when go to bed put frozen water bottles under our arms."

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## Recommendations to address safety concerns and passive heating and cooling adaptation needs

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15	Advocate for external shutters, security screens, and ceiling fans as a minimum standard for private and public housing tenants, in addition to air conditioning
16	Advocate for and help "put pressure on landlords" to retrofit homes and install solar
17	Advocate and incentivise passive measures to landlords: external shutters, ceiling fans, insulation, double glazing, and curtains
18	Engage builders, technicians and landlords on the choice and siting of appliances for maximum efficacy and efficiency, and minimum cost in their usage
19	Advocate to the Department of Housing on speeding up repair requests for residents living in public housing
20	Provide support to low-income elderly residents to retrofit their homes with passive thermal measures, such as curtains, and fix those which are broken
21	Remove the permit and administration fees for the installation of flyscreens and security doors, and look at other fee structures that may disproportionately affect low-income residents in cooling and securing their homes
22	Highlight community experiences of adapting to extreme heat and cold in information sharing and advocacy, such as the importance of passive cooling systems

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### 3.2.5 – Learning from diverse experiences and knowledge

#### What we heard...

*Learning from culturally and socially diverse experiences and knowledge helps us understand existing capacity to adapt, and the structural and social constraints for just and inclusive adaptation*

Recognising the diversity of lived experiences of climate change was identified by participants as an important way to strengthen local adaptive capacity. Specifically, how intersecting characteristics such as age, ethnicity, and gender might help to combat assumptions of how and why people might act on climate change, as well as highlight the disproportionate impacts for some.

#### A diversity of local experiences

For many, strengthening local adaptive capacity included acknowledging the experiences, knowledges and existing capacity to adapt that inform how people approach extreme weather. Day-to-day schedules and activities were common points of discussion, with some participants contrasting their experiences overseas to those here:

"People here rely on A/C to cool down. I come from East of China, very hot and moist. [The] temperature can go up to 38 degrees. During the summer we usually sleep on a bamboo bed. Or we use sheets made from bamboo to cool down so we don't have to use the fan or A/C that much."

"At school [in Japan], summer holiday was very hot so we wake up early and go to the park. The students gather together and we do exercise about 6:30am... part of the homework in summer. Even in the hot summer we need exercise so we do it in the early morning."

Urban infrastructure was another point of discussion for recent migrants, specifically for those who previously lived in hot climates. For example, a couple who had lived in both Asia and the Middle East described indoor playgrounds for children; air conditioned and accessible 24/7. Other participants shared similar anecdotes:

"In Dubai they have [air conditioning] in the bus stops. Doors open and close."

"A lot of people now [have] paving] so when there is flash flooding there's nowhere for the water to go. A lot of that paving goes unchecked by council. In India [we] have porous asphalt and pavements...why aren't we doing that?"

"In the Philippines we have these fences that you can sit down and walk again. Especially those newly built houses here, they have fences that are very high. When the weather is very hot, you cannot always go around."

## Adaptive capacity mediated by changing circumstances

Others highlighted the ways personal experiences are mediated by local knowledge as well as existing social structures, costs and accessibility issues.

Several participants were "floorled]" by the fluctuating temperatures of Victoria and felt like they were left to their own devices in "figur[ing] out" how to remain comfortable and safe. One young family spoke about the inconsistency of Melbourne weather relative to Lebanon and the challenges of this in preparing for their day and configuring their home appropriately. A young participant from East Africa living in public housing shared:

"I got very sick because I was too close to the heater for a long time. One friend told me to let my body get used to the cold a bit and that was very helpful. I used to rush to the heater."

Capacity to adapt can also shift over life courses and as personal circumstances change. The intersections of gender and age were articulated by older women participants in particular. For example, in being able to manage expenses following the death of a partner or separation:

"I don't have money to pay my bills because I don't have income... I go to the food relief in other organisation to have the food. [But] food is not a problem for me – it is the bills.

"I got separated a few months ago. Suddenly I have to manage all my expenses so I find it very expensive for me. Then have to pay the bills. It is an issue."

Other women – and parents – drew on their caring responsibilities to highlight the limitations of their ability to take action. Lessons from COVID-19 were emphasised here too including the relative cost of electricity for low-income families and the ability to keep children safe, active or entertained when having to remain indoors. One mother living in public housing described how local children's activities were largely privately run and "way too expensive" at around \$15 per child for 30 minutes.

Another parent shared the challenges of having a family of nine in a small rental home, including one child with asthma, without air conditioning or the ability to afford heating. The size of their family and cost precluded them from visiting shopping centres or their family and friends on hot days:

"Council can't help big families like mine – 11 years in Australia and still waiting for public housing. No way to isolate when [we] had COVID."

## Differing needs in accessing cool spaces

Compounding the ways social, cost and accessibility issues impact participants' ability to manage heat impacts for themselves and their families, knowledge of local cool spaces did not always translate into usage. Participants with pre-existing health conditions, those with large families, on low-incomes, or with limited mobility had differing needs in accessing cool spaces; insights reinforced by participants' recent experiences during the pandemic.



Localised, low to no cost and often outdoor spaces were preferred by these participants. In particular, those available on weekends or outside of working hours to support families and people with limited social support.

One Darebin resident shared that they have air conditioning in their rental but it is too expensive to run. Throughout summer they rely on fans, keeping windows shut and blinds down. However, on days that are over 35C, they sometimes go to the shopping centre and often go to the RSL. Specifically, the pokies section where they could sit undisturbed for extended periods of time:

"A lot of us go to an RSL or club that has A/C. You'll sit there, might spend \$3 or \$5 spending 1 cent at a time. Might be for a few hours... it's nice and cool... sometimes they have nibbles like party pies. RSL's often also have functions where you can win a prize."

Transforming existing social networks into sites of collective action was offered as a different angle to adaptive capacity; bringing existing and new knowledge together. One social group of elderly women were keen to connect with the Council and with Grandmothers for Climate Action to understand pathways to advocating on climate action:

"You have to come back and talk to all our programs...we have gotten something from it, in other words we enjoyed it."

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### Recommendations to recognise barriers and to build on diverse knowledges in support of adaptive capacity

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|----|--|
| 23 | Involve local communities in highlighting diverse experiences of extreme weather and how this informs their coping strategies and adaptive capacity, for example, those born in hotter countries                                   |
| 24 | Integrate experiences of extreme weather into information provided to newly arrived community members and distribute this information in-person via existing networks, such as faith-based groups and settlement service providers |
| 25 | Tailor information regarding bill management and broader financial literacy to at-risk groups, such as women over the age of 55  |
| 26 | Increase availability and regularity of low to no cost family activities in cool/warm spaces during periods of extreme heat and cold, in particular during times when other services or venues are closed                          |
| 27 | Use existing social gatherings to help community members translate concerns over extreme weather into localised action, for example, connecting in with climate action groups  |
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### 3.2.6 – Managing medical conditions in extreme weather

#### What we heard...

*Extreme weather and exposure to bushfire smoke significantly impact people's ability to stay safe and well if they have a medical condition*

Asthma and extreme weather events were not often an issue for participants. For some, however, it was a serious or life-threatening concern with both mental and physical health impacts, ranging from hospitalisation to fatigue to social isolation.

Heat and exposure to bushfire smoke limited the adaptive capacity of those with asthma. Access to emergency services and medication, home ventilation, and the effects of fans and air conditioners on respiratory functioning were shared concerns, as well as reduced access to cool refuges through being unable to leave their homes:

"I remember wishing I had a mask because it [2019/20 bushfires] triggered my asthma. Was very unpleasant. It flares up... I tried to minimise going out"

One elderly resident of Bundoora who cannot use a fan throughout the night due to their asthma despite struggling to sleep because of the heat, shared that the battery of their medical alert necklace ran flat due to a storm-induced power outage in November 2021; the potentially fatal implications of which they hadn't considered before then.

Another elderly participant discussed how the June 2021 storms also made them realise the importance of having emergency plans communicated to community members so that everyone knows what to do in the case of bushfires or storms:

"Storms in Hepburn Springs changed the landscape. If I was there I wouldn't have known what to do. [It is] about being prepared and ready."

Staying safe and well during extreme weather events or conditions requires homes that are well-ventilated and that people with medical conditions are well-connected. Asthma alerts on commercial television and notifications from local community health or service organisations were the main sources of information for risks to people's health.

For elderly participants in particular, their ability to stay safe and well was contingent on their ability to prepare themselves and their homes adequately in advance of events including air purifiers and stopping gaps in windows and doors. Central to this, however, were relationships: with local businesses, family and friends, and support services.

"I have established a relationship with a local chemist so if I need any medications I can call them and they will deliver what I need. I don't have a mobile phone so I keep the cordless landline with me in case I need to call 000. I try make sure I don't wait too long to call 000 once my prescribed medications cease to be effective as this could be fatal. I monitor the weather on News 24 on the TV. I have a network of family and friends that check on me and go shopping for me when/if necessary."

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## Recommendations to support communities with existing medical conditions during extreme weather events

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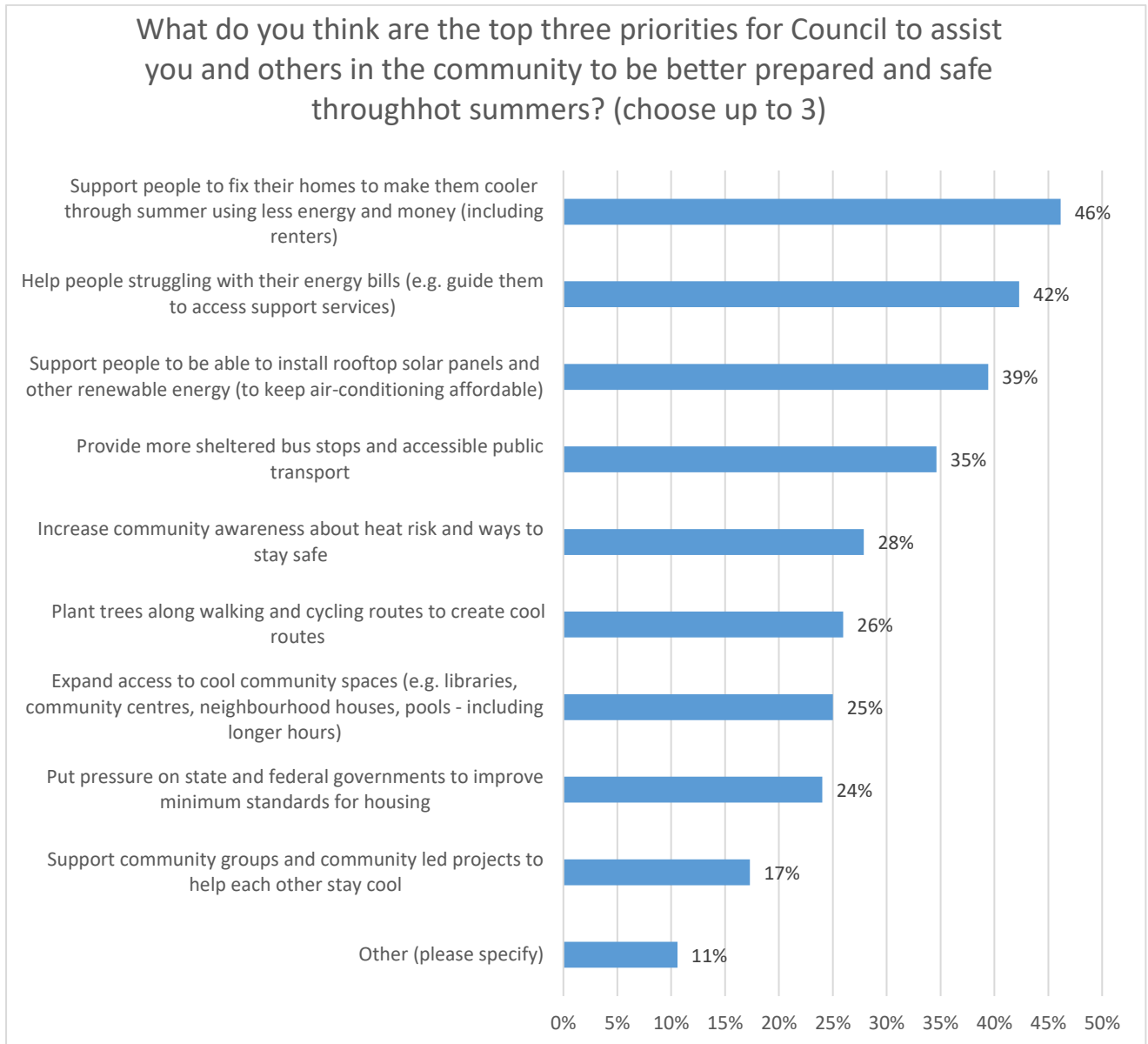
- |           |   |
|-----------|---|
| <b>28</b> | Support low-income and elderly community members with respiratory illness or other existing medical conditions to make their homes more suited to sheltering in place, including air purifiers, passive heating and cooling measures, and stopping window and door gaps |
| <b>29</b> | Use existing relationships, such as GPs, pharmacists and community health organisations, to share information with community members about preparing their homes in advance of extreme heat and cold  |
| <b>30</b> | Communicate details of emergency management plans to at-risk community members, including how to remain safe at home and local services and supports available to them  |
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### 3.2.7 – Additional community recommendations

Throughout this project participants were asked to reflect on and identify the role of Council in helping people to stay well and healthy in extreme weather. The data presented here is both qualitative and quantitative, reflecting the different engagement methods as described in the next section.

Quantitative responses regarding priorities for Council during hot summers were largely focused on energy affordability, specifically in relation to reducing the cost of electricity bills, access to solar and other renewable energy, and retrofitting (**Figure 8**). Other priority areas included increasing shade and shelter along pedestrian and public transport routes, expanding access to cool community spaces,

advocating to state and federal governments on minimum housing standards, as well as raising awareness and capacity strengthening around heat risk and local community resilience initiatives.



**Figure 8.** Top three priorities for Council during hot weather (%; n=104)

The qualitative responses allowed for and reflect more nuanced understandings of what participants were already doing to adapt to extreme weather and what they thought needed to happen (for example, advocating to landlords on housing retrofits). They also suggest clear directions for Council programs which integrate social and infrastructural measures to address heat vulnerability.

Not only do these responses highlight the agency and creativity of participants in responding to local climate impacts, but the clarity of their asks regarding targeted support to individuals and their households as well as public interventions that support community adaptation and resilience reflect a strong community understanding of the importance of local climate action.

Integration of measures is a defining aspect of these responses. For example, shade policy cannot be isolated from active travel and transport, nor opening up community spaces without consideration of who can and will access them.

## Keeping cool and safe in public spaces

- Use existing Council facilities that are empty on the weekends to increase available cool spaces, such as Keon Park Children's Hub, with appropriate activities for target cohorts.
- Address community perception of Council spending more on cooling infrastructure in Darebin's south than in the north of the LGA (i.e. public pool)
- Extend the opening hours of libraries, shopping centres and community centres
- Create spaces in libraries for priority groups, such as the elderly
- Install more public benches and seating in local parks, playgrounds, and shopping strips
- Use more shade cloths in public areas, such as parks, and extending this shade to public facilities such as barbecues, play areas, and gym equipment
- Install water fountains in parks and community walking areas
- Plant more shading trees in reserve areas, such as those adjacent to Winter Crescent in Reservoir
- Increase plant cover to reduce the urban heat island effect around high-traffic walking and cycling thoroughfares, for example, near Summerhill Shopping Centre
- Better consider the types of trees planted relative to population distribution, with seed-bearing or deciduous trees a risk for elderly people whilst walking
- Shelter seating at public transport stops and key thoroughfares, for example, along Hughes Parade in Reservoir
- Public toilets in public areas, such as parks, with significant populations of elderly residents
- Erect 'shelter sheds' as shelter for older people or those with limited mobility along major pedestrian thoroughfares
- Activities at community halls to entertain and keep people safe during heat events
- Vouchers for local cafes and restaurants for priority groups
- Advocate for air conditioning on all local public transport services

## Solar and energy

- Assist low-income families with bill support and who cannot afford to install air conditioning, especially given the increase in at-home electronics usage, such as computers, during the pandemic
- Install solar panels on the roofs of private and public housing tenants: "what is the Council thinking? They should bite the bullet and get solar and in the long run it will save them and the tenants money"
- Subsidise or provide a loan programme to allow low-income earners to install solar (including renters)
- Support community members with the cost of maintaining their solar panels and batteries
- Ensure information about roof-top solar incentives includes information about the cost and labour of maintaining the systems (a concern highlighted by some older home-owners who had chosen not to install solar)
- Development of microgrids that function when mains power fails
- Education regarding how to negotiate with energy providers for elderly people
- Education and support to identify if a solar installer reaching out to a resident is a trusted supplier or a "scam" (fear of being scammed deterred some residents from accessing available incentives)
- Expansion of solar as part of the "back-up" power network for local services and communities

## Housing design and development

- Train builders to use materials and design for the local climate, including solar orientation of buildings, double glazing, and eaves, particularly for apartment buildings

- Subsidise the installation of ceiling fans for low-income residents
- Necessitate that developers leave more existing trees on blocks, especially on boundary lines
- Increase outdoor green space and shade in social housing
- "...financial and technical support for green house and green village projects, also provide pilot project for green house" (supporting the construction of passive residential homes)
- Access to clothes lines for residents in apartment buildings to minimise dryer usage
- Fund the installation of private swimming pools that can be paid in instalments, specifically for residents with limited mobility

## Community connectivity and wellbeing

- Fund community-led projects to help each other stay cool
- Engage with soon-to-be or recent retirees who are now spending more time at home and no longer have access to their office as a cool space
- Greater emergency response assistance for elderly resident on hot days
- Education for elderly residents and newly arrived community members around hydration, including water consumption and eating foods with higher water content

## Urban planning

- Installation of solar panels on roads, as seen in the Netherlands
- Plant trees, not shrubs, on nature strips as the former impedes visibility and provides no shade
- Raise the height of neighbourhood seating to accommodate elderly residents: "hard to get up, arms on chairs to help stand up"
- Maintain the "ordinary street access" to drains to minimise the impacts on residents from floods (in addition to upgrading old drains)
- Increasing shade coverage adjacent along key public transport routes to reduce car dependency
- Plant more shading, food-bearing trees in consultation with local communities, particularly olives and oranges, to generate income for the Council

## Part IV – Evaluation and reflection on methods

### 4.1 – A relational approach to engagement

A relational, collaborative design method was used throughout this engagement to ensure that the research captured the voices of the priority community cohorts and built a rich understanding of their lived experience. This collaborative design approach, working closely with community services, health services and community leaders to shape each engagement activity, allowed the researchers to connect with participants in a sensitive and respectful way.

A key objective of the project was to establish relationships that the Climate Emergency Programs team could leverage for ongoing engagement on climate related issues. The researchers therefore rarely repeated an engagement activity; bringing in Council staff at appropriate times to facilitate introductions and, where possible, creating mutually beneficial opportunities, sharing resources and referring participants to relevant services.

This section highlights various reflections and learnings from the collaborative design methodology and relational approach, including:

- Build on trusted relationships and leverage existing programs and activities
- Empower embedded community service organisations to take the lead on engagement
- Collaborative design takes time and requires flexibility
- Interpersonal connections are crucial
- Self-directed surveys as a tool to inform group discussions
- Guidance and advice from trusted multicultural and faith-based leaders
- Community engagement as an opportunity for two-way learning
- 1-on-1 phone calls through trusted referral pathways enable meaningful engagement with those harder to reach

#### 4.1.1 – Build on trusted relationships and leverage existing programs and activities

##### What we learnt...

*Building on the trusted relationships held by the community and health services and community leaders creates effective and respectful pathways to hear the voices of those harder to reach*

*Leveraging existing community programs and activities enables engagement activities to be integrated into a familiar and safe setting*

*Supporting organisations should be resourced for their time and the relationships held as trusted points of contact for the community*

Throughout the engagement, each activity relied on the existing trusted relationships with community held by the community and health services and community leaders. Prior to direct engagement with community, the Centre for Just Places team delivered climate resilience workshops for the community sector (Phase 2A in **Figure 2**). These workshops, along with a significant contribution by project partner Bridge Darebin Neighbourhood House, helped establish connections and start the conversation with community and health service staff across Darebin around issues of climate change.

Conversations with community leaders enabled the researchers to leverage existing programs and activities. For example, the researchers worked closely with a nurse facilitating a diabetes support group to collaboratively design an engagement activity. Participants were, all over 55 and of varied backgrounds including Greek, Mauritian and Aboriginal or Torres Strait Islander. To ensure the session was relevant and engaging for this group, the nurse suggested that heat health be the topic for the session and requested that she commence the session with a half-hour presentation about how dehydration and lack of

movement are particular risks for diabetics during heatwaves. She shared advice on how to keep safe and key health risk indicators before introducing the researcher and the purpose of the project. The nurse suggested the researcher facilitate a group discussion with a short survey used as a prompt; running through each multiple-choice question as a group and opening the floor for comments, focusing initially on questions about the lived experience of heat and ideas on how to keep safe and well.

#### 4.1.2 – Empower embedded community service organisations to take the lead on engagement

##### What we learnt...

*Empowering embedded community service organisations to take the lead on engagement is an effective and efficient method of engaging those who are harder to reach in the community*

A very effective method of engagement was empowering an embedded organisation to take the lead in contacting people within the community. This provided avenues to engage harder to reach community members and served as a valuable referral pathway for follow-up 1-on-1 interviews. Working first with the organisation's leadership to collaboratively design the engagement activity, questions asked, and language used was critical to creating ownership by staff across the organisation who would be delivering the activity.

The researchers met with Darebin Information Volunteer and Resource Service (DIVRS) management three times to shape the language and questions in a short survey and interview script for DIVRS staff and volunteers to interview participants at the start of their weekly well-being checks by phone. Importantly, these discussions ensured that the survey questions aligned with both Council's engagement objectives and the particular interests of the DIVRS team, focusing largely on health and energy justice. The collaborative process in collaboratively designing the interview script informed the language used in future interviews and group discussions outside of this specific engagement activity.

DIVRS requested the survey be online with the interview script embedded, for staff to input responses while on the phone with participants. Before the engagement commenced, the researcher joined a team meeting to share the project background and purpose, facilitate a discussion about the DIVRS team's own observations of how climate change and energy injustice is being felt in the community, and respond to questions.

Over three weeks the DIVRS team completed the survey with 27 community members who engage in their services. The demographics of this engaged cohort demonstrate the power of enabling engagement to be led by those embedded within the community. Survey participants included:

- 50% over 55;
- 12% identifying as Aboriginal or Torres Strait Islander, 46% born outside Australia;
- 76% female, 20% male, 4% trans woman;
- 27% in East Reservoir, 15% in West Reservoir and 30% in Preston;
- 42% renting in public housing and 25% in private rental, 4% without long-term accommodation.

These short discussions led by DIVRS staff and volunteers were an important referral pathway, with 12 of the short survey participants agreeing to be contacted by the Centre for Just Places researchers for 45 minutes to one hour 1-on-1 interviews, in return for a \$15 Coles voucher.

#### 4.1.3 – Collaborative design takes time and requires flexibility

##### What we learnt...

*Collaborative design requires flexibility, resourcing and often longer time horizons, but enables meaningful conversations and effective engagement that is relevant to the diverse experiences and perspectives across Darebin*

Collaboratively designing a direct engagement plan required time, both in terms of hours spent building relationships and implementation timelines; recognising that the community sector is responsive to community needs, under-resourced, and therefore often has shifting priorities.

On a number of occasions, this time investment and relational work did not eventuate into action. For example, the researchers had three meetings with one faith based organisation over the course of 3 months, implementing their advice to translate the short survey into different languages, incorporating their feedback in the translations, and creating an online version that could also be shared via WhatsApp. The project officers however, were unable to support delivery of the engagement sessions due to COVID-19 related pressures.

#### 4.1.4 – Interpersonal connections are crucial

##### What we learnt...

*Supporting individuals to complete a short survey is an effective way to capture more diverse responses to survey questions and gather more anecdotal evidence of people's experiences*

*Introductions from trusted community leaders are vital for facilitating meaningful engagement with the community on their terms and to understanding how information might be received*

Introductions from trusted community leaders and an interpersonal approach were important factors to successfully engaging the target community cohorts.

Short, medium and full length surveys were distributed to communities both online and as a hard copy; emailed through trusted networks and established contacts. This method of engagement produced a very low response rate with the target cohort.

There was a marked difference in response when interpersonal relationships were centred. For example, a faith-based community group offered to distribute the printed short survey through their various programs. After a month, they provided feedback that they had not received any responses. They suggested the research team attend their food relief service in-person to actively engage participants and support them through the completion of the survey.

The agreed approach included an introduction by the coordinator to the wider group, a 1-minute presentation by the researcher on the overall project focusing on the impacts of extreme weather (in particular heat – climate change was not mentioned) and why Council wants to hear peoples' stories and ideas. This brief presentation received applause and thanks from some participants, expressing appreciation for the opportunity to share their experience of the recent summer and what they needed.

While participants were waiting to receive food parcels, the researcher spoke with seven individuals, working through three to five multiple-choice questions and prompting them to expand on their responses with anecdotes.

#### 4.1.5 – Self-directed surveys as a tool to inform group discussions

##### What we learnt...

*Self-directed surveys are a useful tool to inform subsequent interviews or group discussions*

*A small payment or voucher acknowledges the time commitment of respondents, and is an incentive to participate*

One community organisation proposed an engagement approach in which participants were first asked to complete a self-directed survey followed by a 1-hour group discussion. Requesting that participants complete the survey prior to the group discussion provided the researchers with helpful context to draw out common themes and plan the discussion to explore these themes in more detail. This was a very valuable engagement approach and enabled the researchers to shape relevant questions and facilitate participation.



The organisation offered to bring together a group of Darebin residents from their community that aligned with the target demographics but suggested that participants be paid due to the significant time commitment. This approach was carried out with six individuals and later with eight community members brought together by another community group. Participants were sent a \$15 Coles voucher following the engagement. This financial incentive enabled engagement with community members who may not have otherwise participated.

#### 4.1.6 – Guidance and advice from trusted multicultural and faith-based leaders

##### What we learnt...

*Seeking guidance and advice from trusted multicultural and faith-based leaders provides valuable avenues for engagement, and can ensure appropriate language and approaches are used*

The researchers were invited to attend a Darebin Ethnic Communities Council (DECC), Darebin Interfaith Council Committee (DICC), and Brotherhood of Saint Lawrence Refugee Action Program committee meetings to discuss opportunities to reach target communities and seek advice on the engagement approach. This led to relationships with a number of community leaders and opportunities for engagement, as well as networks through which to distribute the short survey.

Consistent advice from these committees was to utilise the strong networks held by community leaders across Darebin to deliver future engagement and share critical information. Also discussed was the potential to better equip multicultural leaders to support ongoing community engagement on climate related issues and emergency preparedness and provide critical pathways to connect with communities during emergencies.

The committees emphasised the importance of acknowledging the role of community leaders in getting information out to the community during times of crisis, in particular for those not accessing mainstream media. Reflecting on COVID-19 health messaging, they shared that many in the community were guided by community leaders who were often translating material themselves in real-time (e.g. news bulletins) and posting it through informal channels in a user-friendly manner to their networks. They recommended that future engagement include an objective to identify appropriate community leaders, asking, "who do you go to find out if there is a big event in the community? Like a wedding or a funeral".

#### 4.1.7 – Community engagement as an opportunity for two-way learning

##### What we learnt...

*Community engagement offers the possibility of two-way learning through existing programs, and planning engagement activities as pathways to distribute information and resources*

The researchers connected with a number of community development (CD) workers at a local organisation in Darebin that runs weekly social support programs. Over the course of three preparation meetings, the researchers and CD workers collaboratively designed an approach to take to a number of these weekly programs based on the priority demographics of the project. The CD workers suggested that the sessions explicitly create space to discuss climate change and a closing short presentation about available resources; allowing for time to respond to questions.

Over 2 weeks, the researchers engaged approximately 30 older Darebin residents of diverse backgrounds across three one-hour group conversations. The CD workers were also present and shared their own personal and professional experiences; asked questions, and suggested possible community and Council actions.

The Climate Emergency Programs team from Council were also invited to attend these sessions. The groups were all extremely generous with what they shared, and were often keen for additional conversations to be had and resources shared. One session, for example, led to a discussion about becoming more involved in climate action, including inviting Grandmothers for Climate Action to speak at a future gathering.

When flyers with energy efficiency tips and advice about energy support resources were distributed, the researchers and Council staff were able to respond to questions and highlight existing Council programs, speaking to the group and 1-on-1 to individuals, pointing to specific resources that were relevant to them (e.g. the \$250 Power Saver initiative). This personal engagement led to invitations for the Council to speak to other Social Support programs. The CD workers also expressed interest in their team undertaking training to build their capacity to identify and respond to community needs in the face of climate change.

#### 4.1.8 – 1-on-1 phone calls through trusted referral pathways enable meaningful engagement with those harder to reach

##### What we learnt...

*1-on-1 phone calls are resource intensive and require flexibility but provide important, detailed information about the experiences of those who are often harder to reach in the community*

*Referral pathways are an extremely important component of this methodology and require a significant upfront investment in building relationships with embedded CSOs and health services*

Piloted first with participants at a local community organisation, and later via referrals from a number of community service and health organisations, the research team had fifteen 45 minutes to 1.5 hour 1-on-1 phone calls with community members. Participants were offered a \$15 Coles voucher in return for their time. The researchers initially utilised this methodology in response to prolonged COVID-19 lockdowns, to ensure the voices of those without access to online engagement opportunities were heard. The diversity of those engaged and the richness of the information received through this methodology however, led to the researchers expanding the number of 1-on-1 interviews by phone beyond the lockdown period.

These phone calls provided an opportunity to hear deeply personal stories, including the nuances of individual's circumstances, needs and priorities to be safe and well. They also occasionally served as a platform to advocate for the individual to Council and other support avenues.

This engagement technique is resource intensive with the researchers spending up to 2.5 hours on one individual, including time to arrange the conversation, deliver the engagement, and de-identify notes and transcribe the responses. It also requires significant flexibility. One older public housing resident, for example, did not speak English and required an interpreter. The research team arranged an interpreter through Translating and Interpreting Services National. Costs were incurred for a 5-minute call to arrange a time for a 1 hour call the following week. The researcher reserved a non-refundable hour of the interpreter's services at the time agreed with the participant, but when the call was made the participant was at a card game with friends and did not want to speak. They arranged a second time the following week, doubling cost of interpreter fees.

#### 4.1.9 High school (Darebin)

##### What we learnt...

*Long lead times are required when working with schools to establish relationships and, in collaboration with teachers, to curate a program of incursions that is aligned with curriculum*

*Considered lesson planning is key to ensuring that sessions on climate adaption are well paced, applicable to year level capabilities, and not too overloaded with conceptual content*

*Young people prefer interactive learning opportunities that intersperse computer activities and short films across question and answer and group discussion activities*

*Data collection through a homework activity, like a written survey, needs to be supported by the research team to ensure students are able to successfully participate and produce useable data*

*Heat is readily understood by young people as a climate impact that is connected to and influenced by socio-economics, housing quality, neighbourhood amenity, and age*

In collaboration with the class teacher, two sessions were developed and conducted with a Year 9 Civics and Humanities class.

The first session included background learning about climate change and the ways the experience and impact of heat varies according to socio-economic status, housing quality and location. Students then worked through two scenarios to explore the impacts of and responses to a heatwave, both on a school day and on a weekend. The exercise was designed to encourage more general commentary, rather than sharing of personal experiences, to ensure student safety and comfort when discussing content that might be personally revealing or challenging.

Students were given a homework exercise between the two sessions, in being invited to survey an older member of their family about that person's experiences of and responses to heat. Questions in the survey were both similar to and scaffolded by the discussion and scenario exercise in session one. It was anticipated that the survey data could be added to the overall research project findings.

Two issues arose which meant that the main task of session two, to review and reflect upon survey responses, was not possible. First, only 15 of 25 students were present at the first session due to an excursion. This necessitated a longer introduction at the session involving review of content from the previous session. Students who were present at the first session were engaged in a question and answer discussion to share what they had previously learnt. Secondly, unfortunately none of the students were forwarded the link to enter survey data and only a small group of students (8) had attempted to complete the survey on the available paper copy.

To mix up the session and to allow time to discuss with the teacher what to do, a 15 minute section of a film 'Youth on Strike' was shown to the class. The film tells the story of 12 School Strike for Climate activists in the lead up to the large climate strike in Melbourne in 2020. The students loved this film as was apparent in the subsequent discussion; they engaged with the themes of young people trying to make big changes and responded positively to the stories and the passions of those that were featured. Remaining time in the class was spent with students 'interviewing' each other to complete survey forms.

Group discussion was a key part of these two incursion sessions. It was clear throughout that young people care very much about climate issues and, when encouraged, are able to understand and articulate the ways climate vulnerability varies according to socio-economic status, housing quality, neighbourhood amenity and age.

#### **4.1.10 – Recommendations for ongoing engagement**

Throughout this engagement, the Centre for Just Places and the Climate Emergency Programs team at Darebin Council established and strengthened relationships that could be leveraged for ongoing engagement on climate related issues.

The Climate Emergency Programs team are encouraged to continue to invest in relationships with community and health service providers, community leaders and teachers around issues of climate justice to strengthen pathways for future engagement through their trusted relationships, to empower embedded organisations to lead engagement, and to identify opportunities to leverage existing programs.

There are a number of specific recommendations for the Climate Emergency Programs team to consider that build on the outcomes of this project, including;

- Pilot a 'train the trainer' program, working with a community leader or community service organisation to build their capacity to deliver information about energy justice resources and energy efficiency in languages other than English. Use the learnings from this pilot to inform larger group capacity building work with a network of leaders. Consider piloting this work through a neighbourhood house, DIVRS or Your Community Health.
- Engage other Social Support Program groups as an opportunity to reach at-risk community members in East Reservoir and East Preston. Consider pathways to provide capacity building training for staff and volunteers around climate impacts and energy justice resources.

- Continue to engage established services, such as the food relief as a means to answer questions and provide personalised advice to at-risk communities. This should include an introduction by those running the food relief program and a short presentation about the resources; putting a face to these Council initiatives. There may be opportunities to build the capacity of staff at the host organisation to support engagement with their own participants, including resourcing them for their time to lead conversations and have an information table.

## 4.2 – Engaging the Aboriginal and Torres Strait Islander community in Darebin

Darebin Council specified the Aboriginal and Torres Strait Islander community in Darebin as a priority community for engagement, to identify their needs and priorities in relation to understanding and adapting to the climate emergency, to deepen Darebin Council's understanding of key areas for focus, and to establish relationships to support future climate action and adaptation projects.

A voluntary, project-specific working group, comprised of Aboriginal Elders, Centre for Just Places, and the Council's Climate Emergency Programs team, enabled the planning of two in-person events and a podcast series. The process ensured that the activities were informed by a best practice approach that responded to present needs in relation to extreme weather events, that materials were culturally sensitive and appropriate, and that ongoing opportunities for engagement and collaborative design were directly fed back to Council.

### 4.2.1 – Engagement process led by Aboriginal leaders

#### ***Guidance from Aboriginal leaders***

Through the initial consultation phase of the Climate Justice project, Centre for Just Places and Bridge Darebin consulted with Aboriginal community members, including Traditional Owners and other Elders, on how best to engage the Aboriginal community in Darebin with an approach that was respectful, appropriate, and effective.

A number of recommendations were made in consultation with the working group. First, to bring an Aboriginal person into the project to initiate contact and lead conversations with Aboriginal community members. Second, it was recommended that activities include an informal, catered community event to provide an initial engagement on these issues, followed by a more formal event featuring Aboriginal speakers and a community forum session to hear the voices of community.

#### ***Guidance from the working group on engaging Aboriginal people in Darebin about Climate Change***

A two-phase approach was collaboratively designed to maximise community participation, engage Aboriginal organisations in leading these conversations, and identify opportunities for ongoing engagement, resourcing, and pathways for action.

##### Phase 1 – Informal event

An informal, inclusive, and intergenerational community gathering at Barrbunin Beek Aboriginal Gathering Place was proposed as a way of bringing together diverse perspectives and experiences, including community members who may not have engaged on issues of climate change before. While the priority was to create an opportunity for the Aboriginal community to reconnect after successive COVID-19 lockdowns, it was also hoped to be an opportunity for community members to share their personal experiences of how extreme weather is affecting themselves and their communities.

Key considerations in planning this and subsequent activities included:

- Host at a community-run space in which people feel comfortable and offer a free meal
- Feature First Nations keynote speakers and facilitators, including a Welcome to Country
- Centre Elders (including transport to the venue, seating in air conditioned area of the building)
- Follow respectful protocol (food service after Welcome, Elders served food first)
- All contributions, regardless of viability, documented by the Centre for Just Places and Council team

##### Phase 2 – Aboriginal perspectives on climate change community forum

Following the initial informal gathering, a larger community forum at Darebin Arts Centre was planned. This second phase was designed to provide the community with the opportunity to hear from a range of Aboriginal leaders working in community support, health, environmental management and climate justice, through which to identify pathways for local advocacy and action.

Concurrent to the forum, a campaign to engage the Darebin Aboriginal community was initiated by the working group. Podcasts, video content, print media case studies, and short interviews were highlighted as vehicles through which to engage a broad cross-section of the community, capture the stories of the impacts of climate change on Aboriginal people in Darebin, provide resources and information on how different Aboriginal people were taking action, and inspire others to do the same.

Initial proposed key messages included:

- Caring for Country, caring for each other, caring for family
- Climate change is here but we can adapt to this new reality and support Country to adapt
- We have the power to slow these changes down and eventually reverse them; there is power in the knowledge held by Traditional Owners
- The impacts are being felt and will be felt differently by different people (caring for each other and for family – important for all of us to understand how people will be impacted to know how to prepare)

#### 4.2.2 – Lessons and opportunities from centring Aboriginal perspectives

Collaboratively designing the engagement process alongside Aboriginal community leaders ensured a responsive and respectful mode of working. Specifically, in providing guidance around appropriate ways of engaging community members to discuss, with research and government agencies, their experiences of extreme weather and needs in regards to environmental change.

Such insights emerged through the significant investment of time by the working group, which included over 14 hours of working group meetings and numerous phone consultations in-between. COVID-19 restrictions delayed the first phase multiple times and the second phase until further notice. In January 2022 it was agreed to focus efforts on the delivery of the first informal gathering, with the outcomes of this gathering to inform a larger event later in 2022. Priorities were subsequently shifted to asking participants an abridged version of the engagement survey from the wider Climate Resilience and Fuel Poverty engagement project, with stories and ideas gathered on the day to be recorded by Council and Centre for Just Places teams.

##### Key lessons and opportunities:

- **Invest in a diversity of experiences:** Gender, age, and lived experience were all highlighted as considerations in establishing future project-specific advisory or working-groups, with time and financial resourcing required to engage community leaders with diverse experiences. For example, many young Aboriginal people are already taking active leadership on climate justice, but those spoken to were already stretched across multiple roles and commitments.
- **Leverage existing relationships and activities:** Invest in relationship building with ACCOs and leverage their existing networks and events, rather than developing one-off events through Council. This would also allow the tailoring of discussions to the specific needs and interests of the organisations and community members, as well as more sustainable outreach moving forward.
- **Establish clear relationships and responsibilities:** A respectful protocol requires self-determination; led by and for the community. For every engagement activity or project, this includes a conversation regarding relationships and responsibilities, for example around who to reach out to and who to lead this outreach, as well as making clear the distinction between consulting and community-led. Considerations include the use of agency logos on promotional materials, as well as the number of project staff relative to Aboriginal community members.

- **Allocate time and resources to project-specific working groups:** Consider financial resourcing and/or providing staff support to the working group as an ongoing space through which to unpack issues that are time and place-specific, for example, in planning community outreach around particular events. While representation may vary for each project or activity, future engagement should recognise the value of their contributions, including knowledge, wisdom, cultural sensitivities and community connections.
- **Amplify First Nations-led campaigns and align calls to action with existing priorities of First Nations-led organisations or coalitions:** Connect with First Nations-led organisations and coalitions to align calls to action and engagement approach with existing campaigns and activities, utilising Council funded initiatives to amplify these campaigns where possible.

## Part V – Summary of recommendations to address community priorities

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### Recommendations to address social isolation and support active lifestyles

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|---|---|
| 1 | Extend opening hours for local businesses and community services to cooler parts of the day   |
| 2 | Engage local businesses to install additional seating, for example, shopping centres  |
| 3 | Tailor recreation activities to priority cohorts, for example, swimming times specifically for women or elderly residents   |
| 4 | Provide subsidised or free access to recreation facilities for those at-risk during heat events, including the elderly, low-income households, and people with disabilities |
| 5 | Increase the amount of shade and seating around over 55s residential housing, including green canopy and shade sails  |
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### Recommendations to support emotional and social wellbeing

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|---|--|
| 6 | Improve communication about what happens when Council support workers are unable to work, for example, reduced services or service stoppages due to heat events                                |
| 7 | Train Council community workers around the risks of service stoppages, including ensuring that clients have other points of contact and that tasks are not left incomplete                     |
| 8 | Provide heat health training for staff and volunteers at local community health service providers, and distribute "useful things" such as sunblock to community members through these services |
| 9 | Advocate to Federal and State governments on the physical and mental impacts of climate change for local communities   |
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### Recommendations to support access to and appropriate provision of information

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| 10 | Translate and interpret information about extreme weather into different languages, engaging with local community members to ensure information addressed their needs and comprehension  |
| 11 | Attend community groups and residential complexes to encourage questions and explain pathways for support  |
| 12 | Provide accessible information about navigating solar installation and maintenance, as there is concern "some companies [are] tricking people... still have to pay a lot out of pocket". Disseminate this information through trusted relationships. |
| 13 | Facilitate sessions with elderly people about the supports they can access, such as free air conditioning installation for those with medical conditions   |
| 14 | Reactivation of local community newspaper or newsletter, specifically for distribution within elderly community groups (suggested fortnightly)   |
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### Recommendations to address safety concerns and passive heating and cooling adaptation needs

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| 15 | Advocate for external shutters, security screens, and ceiling fans as a minimum standard for private and public housing tenants, in addition to air conditioning |
| 16 | Advocate for and help "put pressure on landlords" to retrofit homes and install solar  |
-



<b>17</b>	Advocate and incentivise passive measures to landlords: external shutters, ceiling fans, insulation, double glazing, and curtains
<b>18</b>	Engage builders, technicians and landlords on the choice and siting of appliances for maximum efficacy and efficiency, and minimum cost in their usage
<b>19</b>	Advocate to the Department of Housing on speeding up repair requests for residents living in public housing
<b>20</b>	Provide support to low-income elderly residents to retrofit their homes with passive thermal measures, such as curtains, and fix those which are broken
<b>21</b>	Remove the permit and administration fees for the installation of flyscreens and security doors, and look at other fee structures that may disproportionately affect low-income residents in cooling and securing their homes
<b>22</b>	Highlight community experiences of adapting to extreme heat and cold in information sharing and advocacy, such as the importance of passive cooling systems

### **Recommendations to recognise barriers and to build on diverse knowledges in support of adaptative capacity**

<b>23</b>	Involve local communities in highlighting diverse experiences of extreme weather and how this informs their coping strategies and adaptive capacity, for example, those born in hotter countries
<b>24</b>	Integrate experiences of extreme weather into information provided to newly arrived community members and distribute this information in-person via existing networks, such as faith-based groups and settlement service providers
<b>25</b>	Tailor information regarding bill management and broader financial literacy to at-risk groups, such as women over the age of 55
<b>26</b>	Increase availability and regularity of low to no cost family activities in cool/warm spaces during periods of extreme heat and cold, in particular during times when other services or venues are closed
<b>27</b>	Use existing social gatherings to help community members translate concerns over extreme weather into localised action, for example, connecting in with climate action groups

### **Recommendations to support communities with existing medical conditions during extreme weather events**

<b>28</b>	Support low-income and elderly community members with respiratory illness or other existing medical conditions to make their homes more suited to sheltering in place, including air purifiers, passive heating and cooling measures, and stopping window and door gaps
<b>29</b>	Use existing relationships, such as GPs, pharmacists and community health organisations, to share information with community members about preparing their homes in advance of extreme heat and cold
<b>30</b>	Communicate details of emergency management plans to at-risk community members, including how to remain safe at home and local services and supports available to them

# Appendices

## A1 – Survey questions

### *Experience of weather:*

1. In the last 5 years have you been negatively affected or felt physical discomfort due to any of the following weather events? (please select all that are relevant)
  - a. Very cold days or nights
  - b. Bushfires or bushfire smoke
  - c. Flooding
  - d. Drought
  - e. None of the above
  - f. Any comments?

Comments

2. How often are you affected by the weather? (e.g. heat, cold, flooding, drought)
  - a. Never
  - b. Rarely (every few years)
  - c. Often (once or twice each year)
  - d. Very often (at least a few times each year)
  - e. Any comments?

Comments

3. If you lost power at home, what would be your main concern?

Comments

### *Experience of heat:*

4. On days that are very hot, what is your experience of the following activities? (circle one option under each activity)
  - a. Exercise
    - i. not affected
    - ii. a bit uncomfortable
    - iii. very uncomfortable
    - iv. difficult
    - v. impossible for you
  - b. Running errands (e.g. going to the shops)
    - i. not affected
    - ii. a bit uncomfortable
    - iii. very uncomfortable
    - iv. difficult

- i. impossible for you
- c. Socialising (e.g. seeing friends or family, attending community gathering)
  - i. not affected
  - ii. a bit uncomfortable
  - iii. very uncomfortable
  - iv. difficult
  - v. impossible for you
- d. Catching public transport
  - i. not affected
  - ii. a bit uncomfortable
  - iii. very uncomfortable
  - iv. difficult
  - v. impossible for you
- e. Work
  - i. not affected
  - ii. a bit uncomfortable
  - iii. very uncomfortable
  - iv. difficult
  - v. impossible for you

5. Are there activities that you avoid during hot days?

Comments

6. Have you ever felt unwell during the very hot weather?

- a. Often
- b. Regularly
- c. Occasionally
- d. Never

Comments

7. Have you ever been to a doctor or sought medical care because you felt unwell in the heat?

- a. Yes
- b. No
- c. Prefer not to say

8. Do you have trouble sleeping on hot nights or during heatwaves?

- a. Yes
- b. No
- c. Prefer not to say

Comments

9. Do you take any medication that needs to be refrigerated?
- Yes
  - No
  - Prefer not to say
10. How would you describe your home in summer? During summer my home is...
- Usually comfortable and cool
  - Sometimes hot and uncomfortable
  - Often hot and uncomfortable
  - Always hot and uncomfortable
  - Sometimes it feels dangerously hot at home
  - Prefer not to say

Comments

11. Do you have air conditioning at home? If yes, do you use it?
- No, I don't have A/C at home
  - Yes, I have A/C but my home is still hot when I use it
  - Yes, I have A/C but I don't use it often because it is too expensive to use
  - Yes, I have A/C but I don't use it often because it is broken
  - Yes, I have A/C and it keeps at least one room in my home comfortable through summer
  - Prefer not to say

Comments

12. What do you do on very hot days or nights to stay cool? (choose all that are relevant)
- Go to a shopping centre
  - Go to a shaded park or outdoor public area
  - Go to a public swimming pool
  - Go to family or friends with air conditioning
  - Stay home with the fan or air conditioning on
  - I'm not sure
  - Other (please specify below)

Comments

13. Do you think the way your suburb is built (e.g. the buildings, road, trees, parks etc):
- Decreases heat and makes it more comfortable
  - Increases heat and makes it less comfortable
  - Doesn't make a difference
14. Do you have enough information on how to look after yourself when it is very hot?
- Yes
  - No

c. Unsure

15. Where do you get information about important events or emergencies? (can select more than one)

- a. In the mail
- b. Television
- c. Radio
- d. Newspaper
- e. Social media (e.g. facebook; whatsapp)
- f. Family or friends
- g. Community leaders or religious leaders
- h. App on your phone or website that sends alerts (e.g. VicEmergency app)
- i. Other (please specify below)

Comments
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16. What do you think are the top three priorities for Council to assist you and others in the community to be better prepared and safe through hot summers? (choose up to 3)

- a. Increase community awareness about heat risk and ways to stay safe
- b. Support people to fix their homes to make them cooler through summer using less energy and money (including renters)
- c. Support people to be able to install rooftop solar panels and other renewable energy (to keep air conditioning affordable)
- d. Provide more sheltered bus stops and accessible public transport
- e. Plant trees along walking and cycling routes to create cool routes
- f. Expand access to cool community spaces (e.g. libraries, community centres, neighbourhood houses, pools – including longer hours)
- g. Help people struggling with their energy bills (e.g. guide them to access support services)
- h. Put pressure on state and federal governments to improve minimum standards for housing
- i. Support community groups and community-led projects to help each other stay cool
- j. Other (please explain)

Comments
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17. Do you have any other suggestions about how your community could deal with the heat better?

Comments
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18. Do you think summers are going to become hotter?

- a. Yes
- b. No
- c. Unsure

19. How would you describe your home in winter? During winter my home is...
- a. Usually comfortable and warm
  - b. Sometimes cold and uncomfortable
  - c. Often cold and uncomfortable
  - d. Always cold and uncomfortable
  - e. Sometimes it feels dangerously cold at home

Comments

20. Do you have heating at home? Do you use it?
- a. No, I don't have heating at home
  - b. Yes, I have heating but my home is still cold when I use it
  - c. Yes, I have heating but I don't use it often because it is expensive
  - d. Yes, I have heating but I don't use it often because it is broken
  - e. Yes, I have heating and it keeps my home comfortable through winter

Comments

21. What actions do you take on very cold days or nights to stay warm?

Comments

*Experience of bushfires and smoke*

22. Did the 2019/20 bushfires and bushfire smoke impact your life or someone in your family? If yes, select all that are relevant.
- a. No, I wasn't impacted
  - b. Affected my health for more than 1 week
  - c. Financial stress
  - d. Absent from work or school
  - e. Lost salary
  - f. Less able to do daily activities
  - g. Missed opportunity e.g. exam/interview
  - h. Need to cancel important sporting or social engagement
  - i. Other (please describe the impact below)

Comments

23. Did you do anything to avoid the bushfire smoke in 2019/20? (select all that are relevant)
- a. I did not do anything to avoid the smoke
  - b. Stayed inside with doors and windows shut
  - c. Used air conditioning

- d. Left home to find a smoke-free space (for example shopping centre or cinema)
- e. Used a face mask
- f. Left Melbourne to find clean air
- g. Other (please specify)

Comments

*Lived experience of drought:*

24. How much has drought negatively affected you in the last 5 years? (e.g. water restrictions)
- a. Not at all
  - b. A little
  - c. Moderately
  - d. A lot
  - e. Severely

Comments

25. Have you noticed that food prices change during periods of drought?

- a. Yes
- b. No
- c. Unsure

Comments

26. If you grow food at home, have you lost home grown food due to drought, water restrictions or extreme heat? Did this mean you had to buy more food or had less food for you or your family? (please briefly explain)

Comments

*Lived experience of floods*

27. How much has floods negatively affected you in the last 5 years?
- a. Not at all
  - b. A little
  - c. Moderately
  - d. A lot
  - e. Severely

Comments

*Attitudes and understanding of climate change*

28. How do you feel when you think about climate change?

- a. Not at all concerned
- b. Not very concerned
- c. Slightly concerned
- d. Quite concerned
- e. Very concerned

Comments
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29. How important is it to you that the Darebin City Council take action on climate change?

- a. Not at all important
- b. Not very important
- c. Slightly important
- d. Quite important
- e. Very important

Comments
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*Key demographic data*

1. What gender do you identify as?

- a. Male
- b. Female
- c. Non-binary
- d. Other (please specify) \_\_\_\_\_
- e. Prefer not to answer

2. What is your age?

- a. 13-18
- b. 19-39
- c. 40-54
- d. 55-64
- e. 65+
- f. Prefer not to answer

3. Do you identify as Aboriginal and/or Torres Strait Islander?

- a. Yes
- b. No
- c. Prefer not to say

4. Were you born in Australia? If not, please specify your country of birth.

- a. Yes
- b. No (please specify country of birth) \_\_\_\_\_

5. Do you speak a language other than English at home?

- a. No, English only



b. Yes, (please specify) \_\_\_\_\_

6. How well do you speak English?

- a. Fluently
- b. Very well
- c. Well
- d. Not well

7. What suburb do you live in?

- a. Alphington
- b. Bundoora
- c. Fairfield
- d. Kingsbury
- e. Macleod
- f. Northcote
- g. East Reservoir
- h. West Reservoir
- i. East Preston
- j. Preston
- k. Thornbury
- l. Outside Darebin
- m. Unsure

8. Who do you live with?

- a. On my own
- b. With a partner
- c. Housemates
- d. Children and partner
- e. Children
- f. Parents

9. Residence type

- a. I am renting a private rental
- b. I am renting in public housing
- c. I am living with family
- d. I own my own home
- e. I do not have long term accommodation
- f. Other (please specify, e.g. I visit or work in Darebin)

10. Do you rely on public transport?

- a. Yes
- b. No

Comments
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11. Do you identify as having a disability?
  - a. Yes
  - b. No
  - c. Prefer not to say
  
12. Do you have a long term health condition?
  - a. Yes
  - b. No
  - c. Prefer not to say
  
13. What is your current employment status?
  - a. Employed full-time
  - b. Employed part-time
  - c. Seeking opportunities
  - d. Retired
  - e. Full-time carer (including parent)
  - f. Prefer not to say
  
14. Do you receive a government benefit (job seeker, carers pension, disability pension, age pension)?
  - a. Yes
  - b. No
  - c. Prefer not to say
  
15. Do you have a health care card?
  - a. Yes
  - b. No
  - c. Prefer not to say

***Final open-ended question***

Is there anything else you would like to share about your experience of extreme weather (i.e. heat, cold, storms, flooding, drought or bushfires and smoke), for example how they impact you, how you respond, and what can help your community to be safe and well?

Comments

## A2 – Demographic data

Key demographic data				
Gender	n=130	90 36 3 1	69% 28% 2% 1%	Female Male Other Prefer not to say
Age	n=138	24 31 26 50 7	17% 22% 19% 36% 5%	19-39 40-54 55-64 65+ Prefer not to say
Aboriginal and Torres Strait Islander people	n=128	7 121	5% 95%	Yes No
Born in Australia	n=130	53 77	41% 59%	Yes No
Place of birth	n=76	14 11 5 3 3 3 3 3 2 2 2 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	18% 14% 7% 4% 4% 4% 4% 4% 3% 3% 3% 3% 3% 3% 3% 3% 1%	China Vietnam Somalia Iran Philippines Italy India Japan Germany Malaysia Saudi Arabia England Mauritius Kenya Lebanon France Middle East Ireland Thailand Serbia Croatia Yugoslavia Kuwait Syria Singapore South Africa Pakistan USA Cambodia Canada Sudan Greece
Languages spoken at home	n=127	58 69	46% 54%	English only Language/s other than English
English proficiency	n=22	14 2 4 2	64% 9% 18% 9%	Fluent Very well Well Not well
Suburb (note, in researcher support surveys a number of participants were confused by the	n=128	7 2 2 5	5% 2% 2% 4%	Bundoora Kingsbury Macleod Northcote

delineation of 'East Preston' and may have chosen to not specify this over Preston)		23 8 3 33 13 24 8	18% 6% 2% 26% 10% 19% 6%	East Reservoir West Reservoir East Preston Preston Thornbury Outside Darebin Unsure
Household type	n=19	14 2 2 1	74% 11% 11% 5%	On my own With a partner Children and partner Children
Residence type	n=131	36 18 19 50 1 7	27% 14% 15% 38% 1% 5%	Private rental Public housing Family Own home No long term accommodation Other (e.g. visit or work in Darebin)
Reliance on public transport	n=18	9 9	50% 50%	Yes No
Disability	n=27	6 19 2	23% 70% 7%	Yes No Prefer not to say
Long term health condition	n=20	14 4 2	70% 20% 10%	Yes No Prefer not to say
Employment status	n=38	1 8 7 20 2	3% 21% 18% 53% 5%	Full-time Part-time Looking for work Retired Full-time carer
Government payments	n=21	19 1 1	90% 5% 5%	Yes No Prefer not to say
Health care card	n=19	16 2 1	84% 11% 5%	Yes No Prefer not to say

### A3 – Quantitative results detail

4. In the last 5 years have you been negatively affected or felt physical discomfort due to any of the following weather events? (please select all that are relevant)

Answer choices	Responses	
None of the above	12%	17
Very hot days or nights	77%	109
Very cold days or nights	49%	69
Bushfires or bushfire smoke	34%	48
Flooding	9%	13
Drought	15%	21
	<b>n=141</b>	

5. How often are you affected by the weather? (e.g. heat, cold, flooding, drought)

Answer choices	Responses	
Never	5%	1
Rarely (every few years)	15%	3
Often (once or twice each year)	0%	0
Very often (at least a few times each year)	80%	16
	<b>n=20</b>	

7. On days that are very hot, what is your experience of the following activities? (select one option under each activity)

Answer choices	Not affected		Uncomfortable		Very uncomfortable		Difficult		Impossible	
	%	n	%	n	%	n	%	n	%	n
Exercise	8%	4	29%	15	20%	10	20%	10	24%	11
Running errands	5%	3	35%	19	20%	11	31%	17	9%	5
Socialising	11%	6	44%	24	15%	8	22%	12	7%	4
Catching public transport	20%	11	20%	11	30%	16	15%	8	15%	8
Work	43%	20	26%	12	15%	7	11%	5	6%	3
	n=44		n=81		n=52		n=52		n=31	

9. Have you ever felt unwell during the very hot weather?

Answer choices	Responses	
Never	26%	21
Occasionally	49%	39
Regularly	10%	8
Often	15%	12
	<b>n=80</b>	

**10. Have you ever been to a doctor or sought medical care because you felt unwell in the heat?**

<b>Answer choices</b>	<b>Responses</b>	
Yes	26%	5
No	74%	14
		<b>n=19</b>

**11. Do you have trouble sleeping on hot nights or during heatwaves?**

<b>Answer choices</b>	<b>Responses</b>	
Yes	74%	39
No	26%	14
		<b>n=53</b>

**12. Do you take any medication that needs to be refrigerated?**

<b>Answer choices</b>	<b>Responses</b>	
Yes	32%	8
No	68%	17
		<b>n=25</b>

**13. How would you describe your home in summer? During summer my home is...**

<b>Answer choices</b>	<b>Responses</b>	
Usually comfortable and cool	24%	16
Sometimes hot and uncomfortable	48%	32
Often hot and uncomfortable	15%	10
Always hot and uncomfortable	9%	6
Sometimes it feels dangerously hot at home	2%	1
Prefer not to say	2%	1
		<b>n=66</b>

**14. Do you have air conditioning at home? If yes, do you use it?**

<b>Answer choices</b>	<b>Responses</b>	
No, I don't have A/C at home	23%	31
Yes, I have A/C but my home is still hot when I use it	7%	9
Yes, I have A/C but I don't use it often because it is too expensive to use	21%	29
Yes, I have A/C but I don't use it often because it is broken	1%	1
Yes, I have A/C and it keeps at least one room in my home comfortable through summer	47%	63
Prefer not to say	1%	2
		<b>n=135</b>

**15. What do you do on very hot days or nights to stay cool? (choose all that are relevant)**

<b>Answer choices</b>	<b>Responses</b>	
Go to a shopping centre	36%	46
Go to a shaded park or outdoor public area	14%	18
Go to a public swimming pool	19%	24
Go to family or friends with air conditioning	10%	13
Stay home with the fan or air conditioning on	80%	101
I'm not sure	2%	3
Other (please specify)	6%	7
		<b>n=127</b>

**16. Do you think the way your suburb is built (e.g. the buildings, road, trees, parks etc):**

<b>Answer choices</b>	<b>Responses</b>	
Decreases heat and makes it more comfortable	28%	5
Increases heat and makes it less comfortable	33%	6
Doesn't make a difference	39%	7
		<b>n=18</b>

**17. Do you have enough information on how to look after yourself when it is very hot?**

<b>Answer choices</b>	<b>Responses</b>	
Yes	82%	83
No	6%	6
Unsure	12%	12
		<b>n=101</b>

**18. Where do you get information about important events or emergencies? (can select more than one)**

<b>Answer choices</b>	<b>Responses</b>	
In the mail	10%	11
Television	62%	65
Radio	43%	45
Newspaper	22%	23
Social media (e.g. facebook; whatsapp)	39%	41
Family or friends	42%	44
Community leaders or religious leaders	13%	14
App on your phone or website that sends alerts (e.g. VicEmergency app)	38%	40
Other (please specify)	9%	9
		<b>n=127</b>

**19. What do you think are the top three priorities for Council to assist you and others in the community to be better prepared and safe through hot summers? (choose up to 3)**

<b>Answer choices</b>	<b>Responses</b>	
Support people to fix their homes to make them cooler through summer using less energy and money (including renters)	46%	48
Help people struggling with their energy bills (e.g. guide them to access support services)	42%	44
Support people to be able to install rooftop solar panels and other renewable energy (to keep air conditioning affordable)	39%	41
Provide more sheltered bus stops and accessible public transport	35%	36
Increase community awareness about heat risk and ways to stay safe	28%	29
Plant trees along walking and cycling routes to create cool routes	26%	27
Expand access to cool community spaces (e.g. libraries, community centres, neighbourhood houses, pools – including longer hours)	25%	26
Put pressure on state and federal governments to improve minimum standards for housing	24%	25
Support community groups and community-led projects to help each other stay cool	17%	18
Other (please specify)	11%	11
		<b>n=104</b>

**21. Do you think summers are going to become hotter?**

<b>Answer choices</b>	<b>Responses</b>	
Yes	70%	39
No	7%	4
Unsure	23%	13
		<b>n=56</b>

**22. How would you describe your home in winter? During winter my home is...**

<b>Answer choices</b>	<b>Responses</b>	
Usually comfortable and warm	44%	24
Sometimes cold and uncomfortable	30%	16
Often cold and uncomfortable	7%	4
Always cold and uncomfortable	15%	8
Sometimes it feels dangerously cold at home	4%	2
Usually comfortable and warm	44%	24
		<b>n=54</b>



**23. Do you have heating at home? Do you use it?**

<b>Answer choices</b>	<b>Responses</b>	
No, I don't have heating at home	4%	2
Yes, I have heating but my home is still cold when I use it	13%	7
Yes, I have heating but I don't use it often because it is expensive	28%	15
Yes, I have heating but I don't use it often because it is broken	4%	2
Yes, I have heating and it keeps my home comfortable through winter	51%	27
		<b>n=53</b>

**25. Did the 2019/20 bushfires and bushfire smoke impact your life or someone in your family? If yes, select all that are relevant.**

<b>Answer choices</b>	<b>Responses</b>	
No, I wasn't impacted	65%	32
Affected my health for more than 1 week	12%	6
Financial stress	0%	0
Absent from work or school	4%	2
Lost salary	2%	1
Less able to do daily activities	18%	9
Missed opportunity e.g. exam/interview	0%	0
Need to cancel important sporting or social engagement	2%	1
Other (please specify)	10%	5
		<b>n=49</b>

**26. Did you do anything to avoid the bushfire smoke in 2019/20? (select all that are relevant)**

<b>Answer choices</b>	<b>Responses</b>	
I did not do anything to avoid the smoke	30%	14
Stayed inside with doors and windows shut	59%	27
Used air conditioning	13%	6
Left home to find a smoke-free space (for example shopping centre or cinema)	2%	1
Used a face mask	11%	5
Left Melbourne to find clean air	4%	2
Other (please specify)	4%	2
		<b>n=46</b>

**27. How much has drought negatively affected you in the last 5 years? (e.g. water restrictions)**

<b>Answer choices</b>	<b>Responses</b>	
Not at all	53%	10
A little	37%	7
Moderately	11%	2
A lot	0%	0
Severely	0%	0
		<b>n=19</b>

**28. Have you noticed that food prices change during periods of drought?**

<b>Answer choices</b>	<b>Responses</b>	
Yes	90%	18
No	5%	1
Unsure	5%	1
		<b>n=20</b>

**30. How much has flooding negatively affected you in the last 5 years?**

<b>Answer choices</b>	<b>Responses</b>	
Not at all	78%	14
A little	11%	2
Moderately	6%	1
A lot	0%	0
Severely	6%	1
		<b>n=18</b>

**31. How do you feel when you think about climate change?**

<b>Answer choices</b>	<b>Responses</b>	
Not at all concerned	6%	3
Not very concerned	8%	4
Slightly concerned	13%	6
Quite concerned	33%	16
Very concerned	40%	19
		<b>n=48</b>

32. How important is it to you that the Darebin City Council take action on climate change?

<b>Answer choices</b>	<b>Responses</b>	
Not at all important	2%	1
Not very important	0%	0
Slightly important	13%	6
Quite important	17%	8
Very important	69%	33
		<b>n=48</b>