

SV's

State of Sustainability Report 2023

Are Victorians living sustainably?



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State of Sustainability Report (Summary)

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Acknowledgment

Sustainability Victoria acknowledges Aboriginal and Torres Strait Islander people as the Traditional Custodians of the land and acknowledges and pays respect to their Elders, past and present.



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The State of Sustainability Report 2023

To transition Victoria to a circular, climate-resilient and clean economy, we need to regularly understand how sustainably Victorians are living. In March 2023, Sustainability Victoria commissioned the first wave of a new multi-year study to measure 'sustainable living' among Victorians. This program builds on previous social research and continues our longstanding commitment to understanding the many varied drivers and barriers to that transition.

A sample of 2,510 Victorians was surveyed on attitudes, behaviours and actions they're taking to live a more sustainable life, including the thermal qualities and energy-efficiency of their homes, their use of gas versus electric appliances, their use of renewable energy sources, their participation in the circular economy, and their use of everyday items like reusable bags and coffee cups.

This study will track Victoria's progress over the next few years and provide insights on where government policy, programs or education and behaviour change support is needed.





Climate change
concern remains
high

72%

Key findings at a glance

Climate change – priority and concern

Climate change is one of the most important issues impacting Victorians. Concern has grown in the past year for many respondents, particularly those who are younger and those living in metropolitan Melbourne. Victorians generally recognise that there is a link between climate change and extreme weather events and can see the direct and indirect effects on their family.

- ▶ Climate change concern remains high (72%) and 39% report that their concern has increased in the last year. This concern is higher among the 16-34-year-old cohort and is driven by more evidence of the impacts and the belief that government could do more.
- ▶ More than one-quarter of Victorians (26%) ranked climate change as one of the top 3 priority issues for Victoria. Cost of living ranked number one.
- ▶ Victorians recognise that climate change is impacting them and their families directly through higher cost of living, more extreme weather events, and impacts on health and the health system.
- ▶ Across all 9 Victorian regions, respondents see changes in the natural environment caused directly or indirectly by climate change. Changes include more frequent bushfires, crop failures, extreme weather events, and coastal erosion.
- ▶ Although half (51%) of Victorians have experienced a health condition linked to climate change, knowledge gaps still exist in relation to the type of health conditions that are expected to become more common, such as heat stress and heatstroke. This lack of awareness potentially impacts community resilience, preventing preparedness and protective measures being taken by individuals and families.
- ▶ Communities want more action on climate change, a faster transition to renewable energy and more support, through information and incentives, to play their part.

Change in concern over time¹

While climate change was an issue on the horizon 10 years ago, it is now one of the top issues concerning Victorians.

- ▶ Sustainability Victoria's research from 2010 indicates that one in 50 Victorians (2%) rated climate change as the top priority issue for government. In 2023 this figure has increased to 11%, representing a 5-fold increase in the percentage who rate climate change as the top priority issue.
- ▶ In 2010, only 4% felt that they or their family might be impacted by climate change through the occurrence of extreme weather events. In 2023, this figure has increased to 60%.
- ▶ The number of Victorians who identify as climate change 'sceptics or deniers' has remained consistent over time (from 2010 to now) hovering between 7-8%.



39%

report that their concern has
increased in the last year

¹ We have compared data from research conducted by SV in 2010 and 2017. www.sustainability.vic.gov.au/research-data-and-insights/research/research-reports/victorians-perceptions-of-climate-change



18%

had to get out of their home for a while because it was too hot or cold to stay.

Thermal quality and energy-efficiency of housing

Improving the thermal quality and energy-efficiency of Victorian homes is crucial if householders are to live sustainably, and reduce their energy consumption, energy bills and impact on the environment. Our survey results indicate that much work is still needed to bring our homes up to a minimum energy standard.

- Over one-third (38%) are living in homes with poor to extremely poor thermal quality. These homes have between zero and two thermal features only, such as draught proofing or insulation.
- Those living in poorer quality homes are more likely to experience thermal discomfort on hot and cold days and more likely to have to leave their home at some point because it is too hot or too cold to stay (26% of those with poor thermal quality compared to 12% of those with acceptable thermal quality).
- When assessing key home appliances, such as heating, hot water and cooking, just under one-third of Victorian households (29%) are classified as having low to extremely low energy-efficiency. This means that neither their heating nor hot water system (which together account for 60% of the home's energy) is energy-efficient².
- Only 3% of Victorian homes meet the criteria for a basic energy-efficient all-electric home, i.e. the home includes an induction cook top, reverse cycle air conditioner and a hot water heat pump.

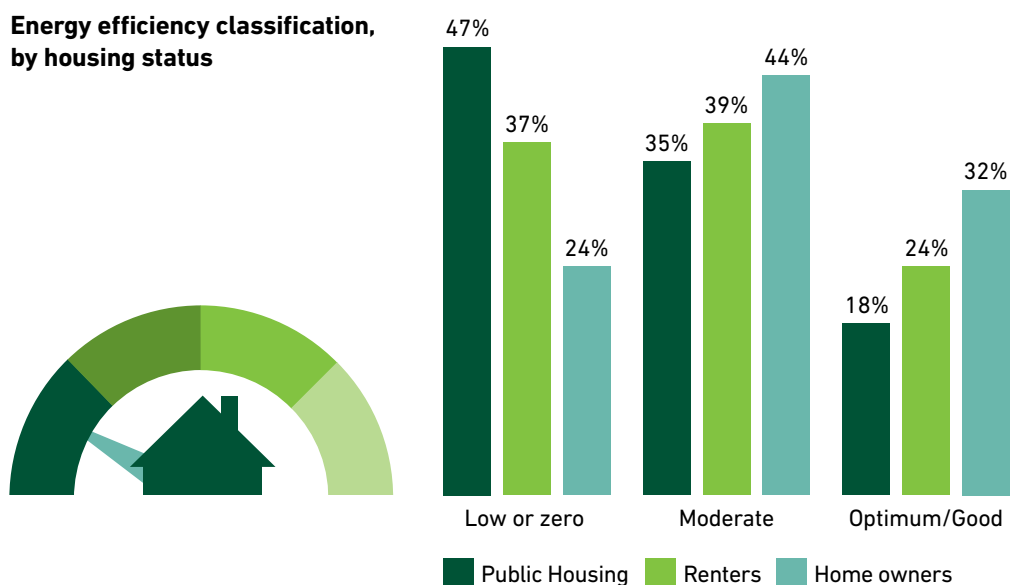
More focus needed on an equitable transition to more efficient, clean energy homes

Compared to homeowners, renters and those in public housing have significantly fewer energy-efficient appliances. Their homes are also more likely to have poorer thermal quality and lower thermal comfort, while they also have lower access to homes with solar panels.

On average, across the whole population, 18% of respondents report having to leave their home because it was too hot or cold to stay. This proportion increased to 28% for renters and 32% for those in public housing.

Of the 27% of renters who requested changes from their landlord to improve energy-efficiency and thermal performance, only 12% had their request accepted.

Energy efficiency classification, by housing status



2 <https://www.sustainability.vic.gov.au/energy-efficiency-and-reducing-emissions/save-energy-in-the-home>



Energy source - transitioning our homes from gas to all-electric

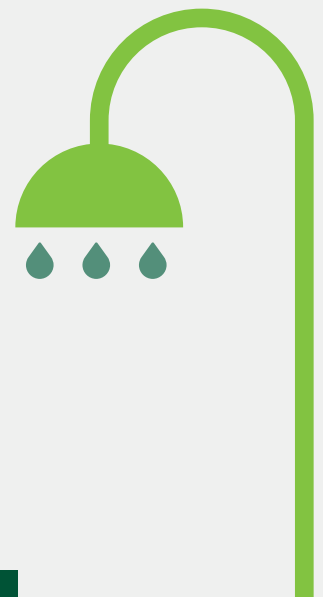
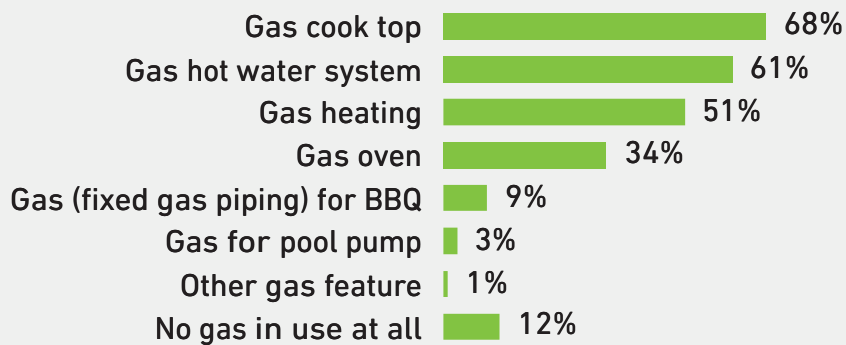
Reliance on gas in Victorian households is high. Transitioning homes from gas to all-electric appliances (sourced from renewable energy) is essential if Victoria is to reach its emissions targets of net zero emissions by 2045. While many Victorians think moving away from fossil fuels is important, this sentiment is not reflected in current community behaviours, with only a small number willing to make a complete switch from gas to electric, (19% said "yes" to switching completely off gas, and an additional 34% said "maybe").

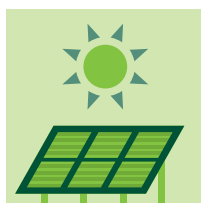
88%

report use of
gas appliances

- ▶ Victorian households have the highest gas usage in Australia, with 88% reporting use of gas appliances.
- ▶ Gas cook tops are most common (68%), followed by gas hot water (61%), gas heating (51%) and gas ovens (34%). Our analysis estimates that 40% of Victorian homes are 'all or mostly' gas. That is, they have 3 or 4 appliances all using gas.
- ▶ While most Victorians are prepared to switch one or two of their gas appliances to electric, when asked about cutting off gas completely, almost half (47%) said no.
- ▶ Those aged 55+ are the most reluctant to switch. This group also have a higher prevalence of gas appliances. Nine percent of those aged 55+ are willing to disconnect completely from gas, compared to 31% of those aged 16 to 34.
- ▶ Although most Victorians (65%) agree conceptually that 'moving away from fossil fuels like gas is important', there is some reluctance to currently do this in their own homes.

Gas appliances in use across Victorian homes





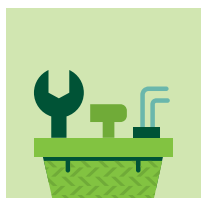
Approximately
**4 in 10 Victorian
homes use
renewable energy**

41%

Renewable energy, solar panels, batteries, electric vehicles (EVs) and transport

Community support exists across all regions for renewable energy infrastructure like batteries, new transmission lines, and wind and solar farms.

- › Over 60% of Victorians are supportive of renewable energy infrastructure in their local area.
- › 41% of Victorian homes use renewable energy. This is made up of 31% with solar panels (up from 4% in 2010 and 26% in 2017) and 17% who buy renewable energy from their energy provider (comprised of 7% with solar panels and 10% without).
- › Solar panels are more common among those aged 55+ (37% compared with 31% average) and among people living in stand-alone houses (36%).
- › Take-up of solar panels is fairly consistent across the regions, with the stand-out exception of Ovens Murray with almost half (49%) having solar. It is understood that the Hume/Goulburn region of Victoria (municipalities of Greater Shepparton, Mitchell, Moira, Murrindindi and Strathbogie Shires) also has the highest concentration of community energy groups in the state which helps propel Ovens Murray's transition to renewable energy.
- › Almost one-quarter of people with solar panels have battery storage, and a further 11% intend to get a battery within the next 2 years.
- › Overall, 1 in 10 (9%) Victorians have battery storage (up from 5% in 2017).
- › Only 3% of Victorians currently have a fully electric car. An additional 5% have a hybrid. As cheaper model electric vehicles become more widely available in Australia, this figure is likely to increase substantially.
- › Two-thirds of Victorians (67%) drive or are driven to work or their place of study, while the remaining third take public transport or use 'active' transport.



Considering the
energy-efficiency
of a home when
renovating or
building was rated
'important' by

70%

of Victorians

Building a new home or renovating³

Three-quarters of the Victorians who are building a new home or renovating one have sought information to make their home more sustainable. Although many believe that sustainable design is important when building or renovating, the cost of those sustainable home upgrades and features is a barrier to greater uptake, with 48% saying it is too expensive to consider.

- › Considering the energy-efficiency of a home when renovating or building was rated "important" or "very important" by 70% of those who are building or renovating, and 75% say they have, or will, look for ways to make their home more energy-efficient.
- › Despite the fact those renovating or building a new home are seeking information, only 17% report having a 'high' level of understanding of how specific features contribute to energy-efficiency and 71% want to know more about making their home energy-efficient.
- › The link between energy-efficiency and cost savings was clearly understood by the majority of those renovating or building (80%) and most (72%) acknowledge that higher upfront costs of a more sustainable, energy-efficient home would be covered in the long run.
- › When asked what would help make choosing sustainable design easier, most (74%) said lower cost of sustainable features, followed by trades/builders who are better informed on the subject (51%) and greater availability of sustainable materials for building (48%).

³ The questions on sustainable building were only asked of respondents who had recently undertaken, or were planning to undertake, a home renovation or new build, (n=658).



The majority
of Victorians

70%

believe that **living
sustainably is
important**

Sustainable behaviours and the circular economy

Shifting toward a circular economy means eliminating waste and pollution and having products and materials circulate through our economy for as long as possible, and at their highest value. When looking at the uptake of activities that support a circular economy, buying or selling second-hand goods had the greatest uptake across Victoria. However, there is still a lot of opportunity to encourage Victorians to repair, loan, lease or rent items, and also to make do with existing items ahead of acquiring new ones.

- › The majority of Victorians (70%) believe that living sustainably is important and most (56%) are thinking more about how best to do this. This positive attitude is held by a majority across all demographic groups and regions, and correlates positively with pro-environmental behaviours being undertaken.
- › In many households with school-aged children, sustainable behaviours are often influenced by learnings brought home from school (70%). Such behaviours commonly include: improving recycling habits; reducing food waste; more mindful energy use; and growing your own food.
- › Most Victorians regularly use reusable bags when shopping (84%) and undertake behaviours consistent with lower food waste, such as planning to eat leftovers (71%) and shopping with a list and sticking to it (65%)⁴.
- › Behaviours with the biggest opportunity for shifts in uptake include: using alternatives to single-use plastic bags for fruit and vegetables; avoiding the use of takeaway drink cups; and choosing items that contain recycled content where possible.
- › At present, around two-thirds of Victorians use op shops (69%) or online platforms (60%) to buy or sell second-hand items, while a lower percentage use repair services (24%) or lease/hire items rather than buy their own (10%).
- › The term 'circular economy' is not well understood by householders, with over two-thirds having never heard of the term or not really understanding what it means.



Victorians' expectations of government

To support action on climate change, Victorians expect government at all levels to play a role.

Victorians would like to see their local government act on climate change across a wide range of initiatives, including:

- › transitioning more urgently towards renewable energy sources
- › offering support to adopt energy-efficient appliances, through the use of incentives or rebates
- › promoting and providing more advice on making sustainable choices.

Expectations of state government to help people live more sustainably included:

- › more education and advice on tackling climate change
- › more urgently transitioning to renewables
- › support to transition to more energy-efficient homes, especially for lower income earners.

4 These top 3 actions have been the focus of Sustainability Victoria behaviour change campaigns since 2019.

Introduction

In 2023, Sustainability Victoria (SV) commenced the first wave of a new multi-year study to assess Victorians' attitudes to sustainability and climate action.

As Victoria strives towards a climate-resilient, clean and circular economy, the research will gather information on householders' attitudes, beliefs and behaviours, and gauge the extent to which they are contributing to a more sustainable future.

The annual survey will track changes as we make this transition to living more sustainably.

To inform the survey design, we consulted the Victorian Government's energy and climate portfolio. A broad range of topics is covered in the survey, including:

- climate change concern and perceptions of impacts, including health
- general attitudes towards living sustainably and take-up of certain behaviours
- understanding of, and participation in, the circular economy
- the energy-efficiency and thermal quality of homes
- gas versus electric appliances, and willingness to switch
- take-up of renewable energy, solar panels and electric vehicles
- awareness and take-up of government energy initiatives (Victorian Energy Upgrades and solar rebates)
- expectations of government action.

The findings and insights will be available to internal and external stakeholders to inform policy, programs and public education and behaviour change campaigns.



A state-wide sample of
2,510 Victorians
at regional level

Uniquely
representative
of Victoria

Mallee
(n=96)

Wimmera
Southern Mallee
(n=49)

Loddon
Campaspe
(n=268)

Goulburn
/Hume
(n=205)

Oven Murray
(n=175)

Great South
Coast
(n=145)

Central H.lands
(n=244)

Melbourne
(n=831)

Gippsland
(n=267)

Barwon
(n=230)

Methodology

A total of 2,510 Victorians aged 16 years and older completed the online survey between 13 February and 21 March 2023. The survey contained over 60 questions and took an average of 25 minutes to complete. Respondents were recruited from research panels managed by professional research organisations.

Sample

The sample is representative of the Victorian population for people aged 16 years and over. The sample consists of 2,510 respondents and was designed to ensure adequate representation of Victoria's regions⁵. In addition, the sample was controlled to ensure representation across age and sex. Data was post-weighted to correct for the over-sampling of regional areas, as well as demographic differences between the achieved sample and the Victorian population.

Who we surveyed unweighted

Age	N=	Location	N=	Housing	N=
16-24	307	Metro	907	Homeowner	1,625
25-34	366	Regional	1,603	Renter (all)	646
35-44	393	Regions		Other	192
45-54	370	Loddon Campaspe	268	Renters	
55-64	424	Gippsland	267	Public housing	110
65-74	412	Central Highlands	244	Private	536
75+	238	Barwon	230	Housing Type	
Analysis Age Groups		Goulburn/Hume	205	Separate house	1,960
16-34	673	Ovens Marry	175	Semi-detached, row or terrace house or townhouse	208
35-54	763	Great South Coast	145	Flat, unit or apartment in an apartment block	276
55+	1074	Mallee	96*		
Language		Wimmera Sth Mallee	49*		
Language other than English (LOTE)	154				
English only	2,356				

* 100 responses were not obtained for Mallee or Wimmera Southern Mallee

⁵ The regional groupings used in our research are the 9 Regional Partnerships used by Regional Development Victoria, established by the Victorian Government in 2016 in recognition that local communities are in the best position to understand the challenges and opportunities faced by their region. Due to the sample size for Wimmera Southern Mallee, and the Mallee, results for these regions should be treated with caution.



Climate change – priority and concern

Over one-quarter of Victorians (26%) rank climate change as one of the top 3 issues of importance for the state. This increases to 30% for those aged 16 to 24 years and to 35% among those living in the highest socio-economic group.

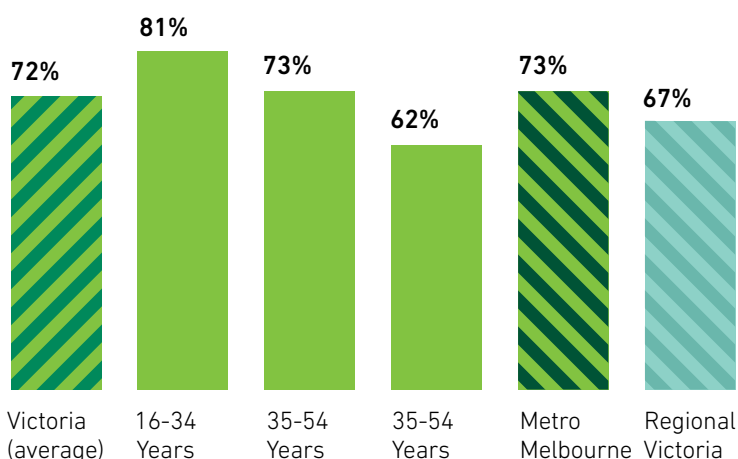
Overall, climate change ranks in the top 4 'issues of importance for Victoria', behind cost of living, healthcare and housing. For 11% of Victorians, climate change ranks as the most important issue. This figure almost doubles in the highest socio-economic group (18%).

Climate change concern remains high

Almost three-quarters of Victorians (72%) report concern about climate change, with one-third rating concern as high.

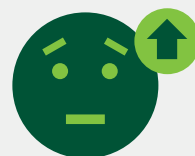
Concern about climate change correlates with age, with younger people showing more concern than older people. However, even among the oldest age group, almost two-thirds register some level of concern.

Climate change concern (fairly or very concerned by age and location)



39%

of Victorians say their concern has increased pace in the past year. The percentage is higher for those aged 16-34 years.



46%

16-34 years

Cost of living

Higher costs

Cost of living, 60%
Affordability and availability of food, 53%
Higher insurance costs for property, 34%

More extreme weather events

Environmental changes

More extreme weather events, 60%
Damage to nature/ loss of plants and animals / biodiversity 47%

The community has recognised a broad range of impacts from climate change

Other

Overall quality of life, 33%

Impacts on health and the health system

Health

Half already experienced a health condition linked to climate change, 51%
Impacts on the health system, 33%

Victorians are aware of climate change impacts

Victorians recognise the broad range of impacts climate change is having and will have on their lives, such as:

- › increases in the cost of living
- › more extreme weather events; and
- › impacts on their health and the health system.

As might be expected, the more people are impacted by climate change, the more likely they are to be concerned about climate change.

Climate change concern is increasing for many Victorians

Concern for climate change has increased over the past year for 39% of Victorians, with younger age groups the most likely to report increasing concern (46% of those aged 16-34 years).

This increase in concern is driven by various factors, including:



more extreme weather and/or catastrophic climate events (globally and locally)



more evidence about the impacts and/or more media coverage



hotter summers and/or changing weather patterns



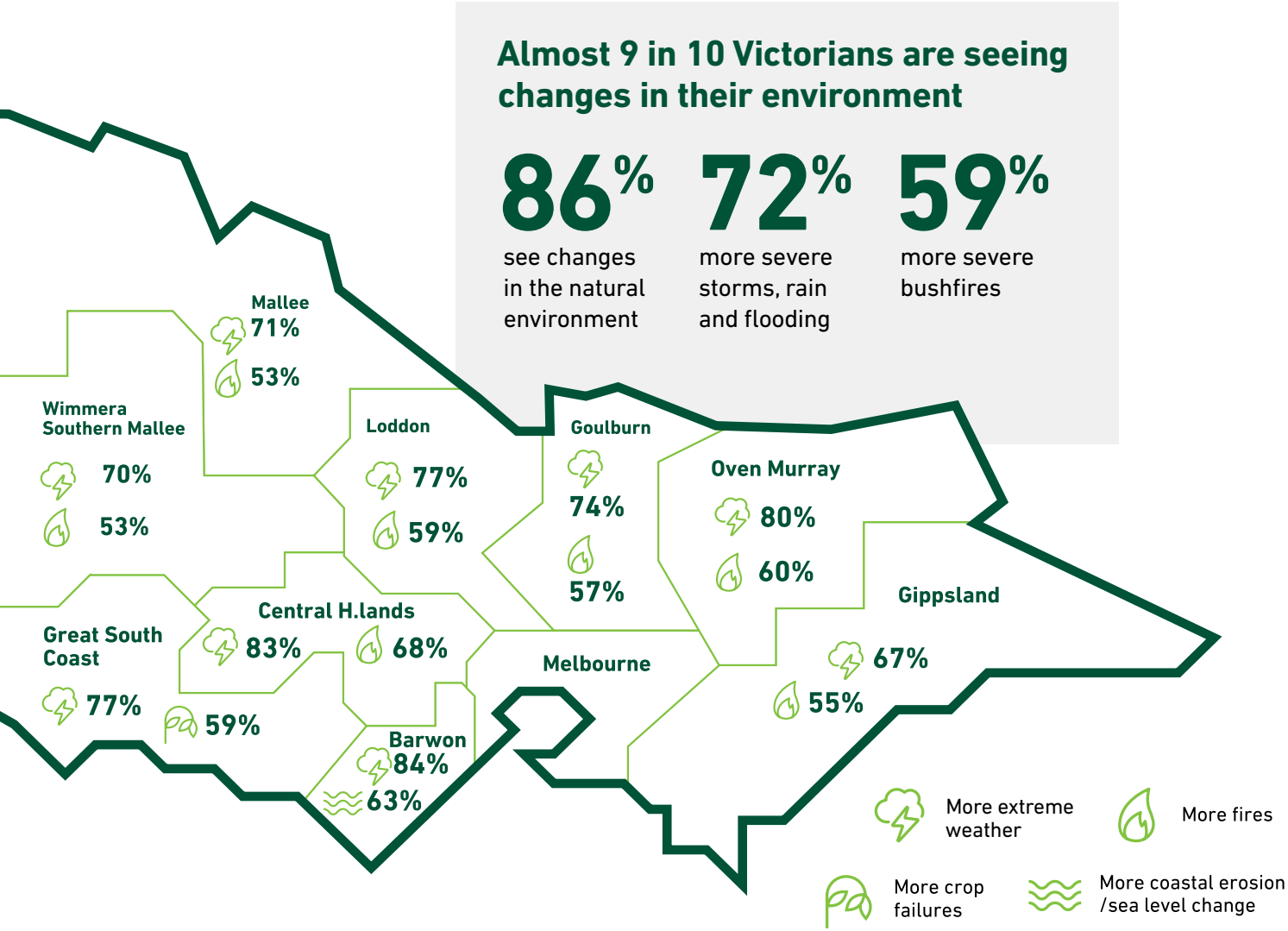
lack of government action and/or believing Australia is behind relative to other countries

Climate change impacts on the environment

Almost 9 in 10 Victorians (86%) can see changes occurring in the natural environment around them, with the largest proportion noticing the increase of extreme weather events (72% severe storms/floods) and bushfires (59%). These changes are seen consistently across all regions of Victoria.

Weather event or environmental changes	% saying these occur more often
Severe storms, rains and flooding*	72%
Severe bushfires*	59%
Air pollution from bushfires and other sources	56%
Crop failures and/or declining agriculture/food security*	55%
Heatwaves and/or extreme summer temperatures	51%
Coastal erosion and/or changes in sea level	51%
Water shortage and drought	40%

* The proportion of Victorians seeing increases in these events has increased since 2017. Results have remained consistent for the others.



Climate change impacts on health

The World Health Organization has described climate change as the biggest threat to health in the 21st century. The changing weather patterns driven by climate change will affect our health and wellbeing directly and indirectly.

Direct impacts will come from the increased frequency and intensity of extreme weather events (such as heatwaves, flooding and bush fires), while indirect affects will result from increasing air pollution, changes in the spread of infectious disease and threats to food availability and clean water. In addition, mental health will increasingly be impacted.⁶

The diagram below outlines the health impacts that Victorians, or members of their families, have experienced over the past couple of years. Overall, half (51%) have reported having a health concern linked to climate change.

6 Better Health Channel – climate and health <https://www.betterhealth.vic.gov.au>

Over half of Victorians have experienced health impacts linked to climate change

51%

Self or family member has had health condition linked to climate change

10%

Mental health/ anxiety related to climate change

12%

Heat stress/ heatstroke caused by extreme heatwaves

38%

Pollen-related allergies

15%

Thunderstorm asthma

6%

Illness caused by viral contaminated food and/or water

12%

Lung complaints from increased air pollution/ smoke from fires

3%



Physical harm from storms/ floods

1%



Physical/bodily harm from bush fires

2%



Insects borne disease (Ross-river, Barmah forest virus)

Gaps in public awareness of health conditions linked to climate change

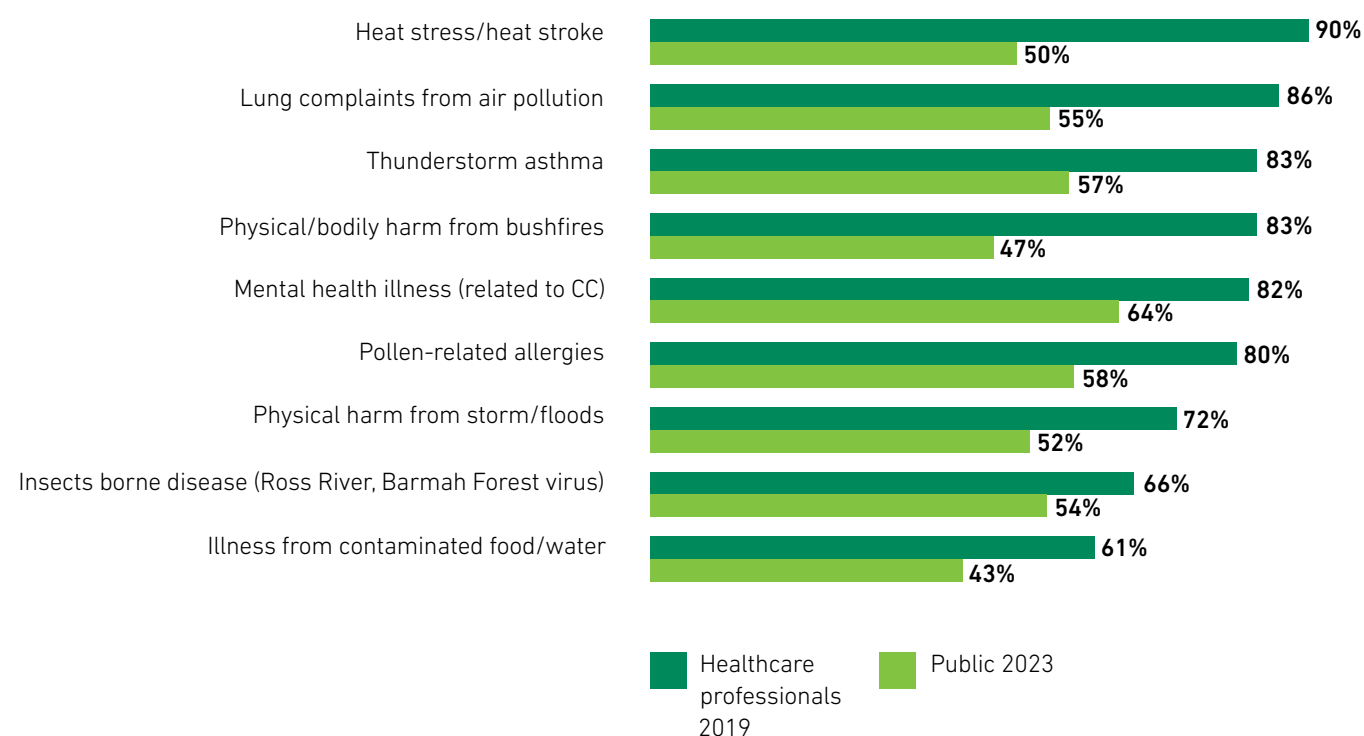
Although health impacts have already been felt by many, there are gaps in awareness about the health conditions that healthcare professionals predict will become more common as climate change impacts increase. For example, heat stress and heatstroke will become more common as climate change impacts increase. However, only 50% of Victorians are aware of this likely impact. Furthermore, males – who are at greater risk of this condition due to higher rates of outdoor work – are less likely to be aware of heat stress and heatstroke and its link to climate change.

To understand whether Victorians are making the link between health and climate change, in 2019 we surveyed 3,060 Victorian community members and 700 Victorian healthcare professionals. This research highlighted a need to bridge the knowledge gap between the public and healthcare professionals.

The general lack of awareness of climate-related health conditions impacts overall community resilience, leaving people vulnerable and potentially unprotected. In order to minimise climate harms, the community needs to be well informed on the potential health conditions linked to climate change and armed with knowledge on how best to protect themselves and their family.

Victorians' awareness of the health conditions that are likely to become more common due to climate change are shown below. The chart presents the public awareness measures from the 2023 State of Sustainability survey, as well as responses gathered from over 600 healthcare professionals in 2019. The gap between the views of the healthcare professionals and the public is clear.

Awareness of climate related health conditions, public versus healthcare professionals



Climate change and mental health

As seen in the previous chart, Victorians believe that mental health illness linked to climate change will become more common in the future. This condition topped the list of worsening health conditions, even ahead of heat stress/heatstroke and harm from bushfire. Healthcare professionals also recognise this condition as one of the fastest growing health impacts as a result of climate change,⁷ particularly among younger generations.

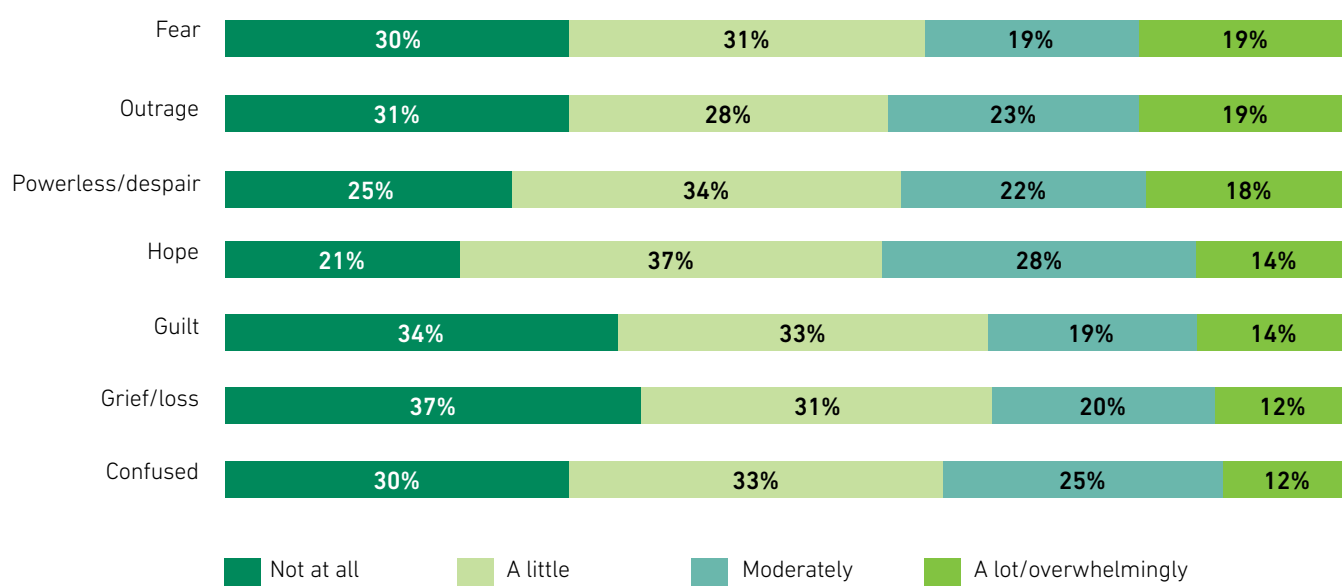
Emotions in relation to climate change

When Victorians think about climate change, most experience negative emotions to some extent, but hope is also felt.

Over one-third of Victorians feel fear (38%), confusion (37%), grief (32%) and guilt (33%) at a moderate to overwhelming level, while slightly higher proportions feel outrage (42%) and powerless/despair (40%) at a moderate to over-whelming level.

More positively, 42% hold moderate to over-whelming feelings of hope, which is an important factor when it comes to motivating individual climate action.

Emotions connected to climate change

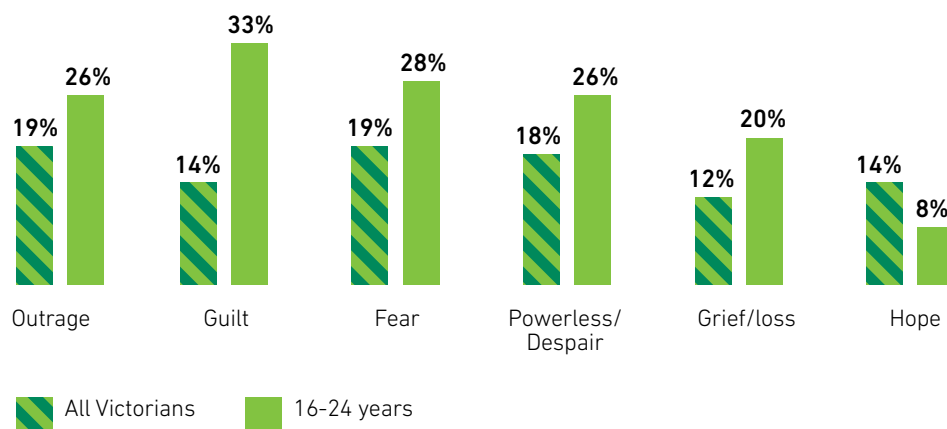


Younger people feel stronger negative emotions linked to climate change

'Strong' or 'overwhelming' emotions in relation to climate change are significantly more likely to be experienced by younger respondents, with substantial proportions reporting strong or over-whelming feelings of guilt (33%), fear (28%), outrage (28%) and powerlessness (26%). These emotions are also felt by other Victorians, although not at the same level of intensity reported by younger respondents.

As shown in the chart below, one-third of 16-24 year-olds have strong or overwhelming feelings of guilt and over one-quarter (28%) feel fear, powerlessness and outrage (26% each). The youngest age group are also the least likely to hold strong feelings of hope (8% compared to 14% average).

Feels these emotions "a lot/overwhelmingly"



Negative emotional responses are strongest among young Victorians aged 16-24 years.

16-24 years

33%

Feel strong or over-whelming feelings of guilt

Victorians want to know more about health and climate change

Health and the healthcare system is a priority for Victorians, ranking second to cost of living on the 'issues of importance' scale.

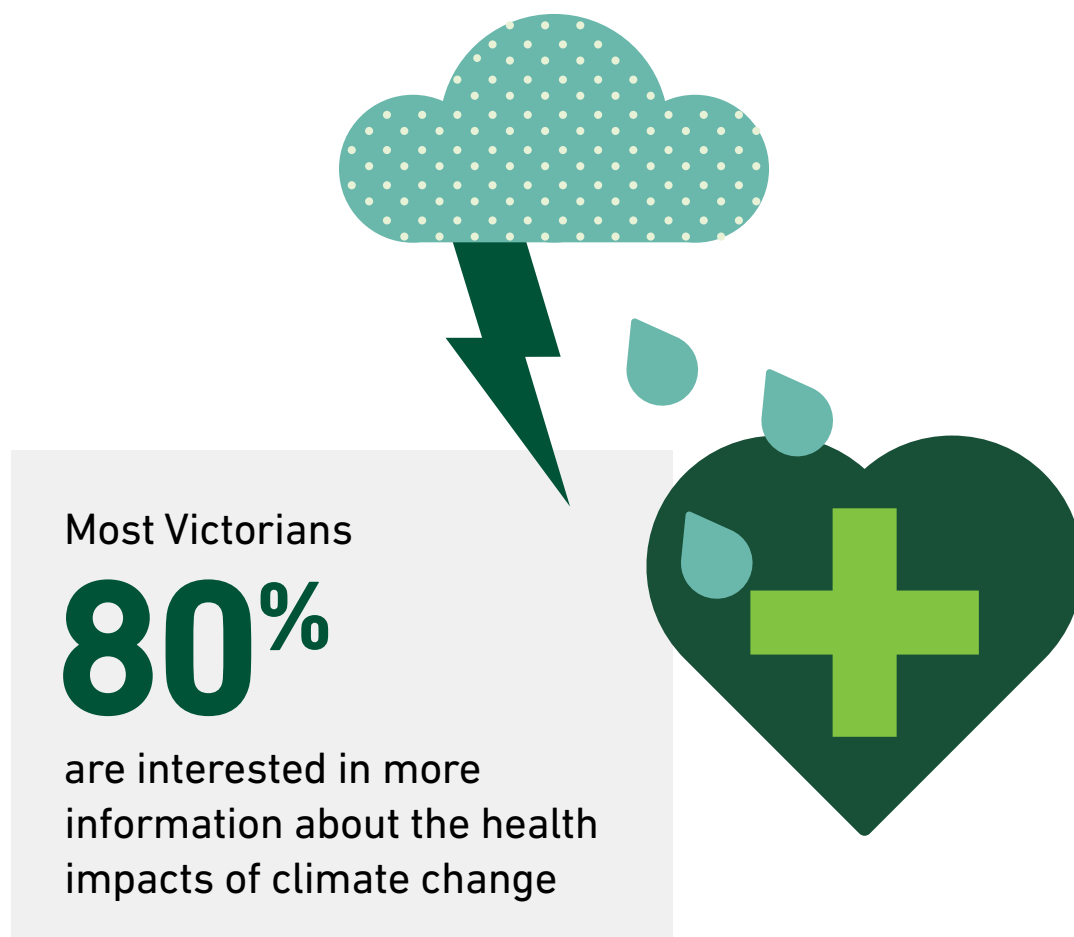
Most Victorians (80%) are interested in more information about the health impacts of climate change, such as:

- › information on actions that improve health and reduce impact on climate change for example, information on active transport (72%)
- › information on how to protect against the health conditions likely to become more common due to climate change (68%)
- › information on climate actions more generally (74%).

During the past year, one-fifth of Victorians actively searched for information on climate change and health, increasing to over a third among those aged 16-34 years. Sources used included:

- › Sustainability Victoria (SV) website (36%)
- › Vic Emergency website (34%, increasing to 47% for 16-34 years)
- › Department of Health (28%)
- › newspapers (25%), TV (21%)
- › local council websites (20%), local council offices (14%)
- › Better Health Channel (16%).

Of those who searched for information, 22% reported that it changed their habits or behaviours to benefit their health and/or mitigate against climate change.



Victorians support renewable energy infrastructure in their local area

Victorians understand the negative impacts of climate change. Many have been or believe they will be directly impacted in the future, and consequently, there is a good level of support for climate action, including a willingness to accept renewable energy infrastructure in their local area.

This general community understanding of the need for action, including the need to transition to renewable energy, provides local and state government a social licence to act on climate.

This social licence is underpinned by the following attitudes and beliefs:

- ▶ 67% believe climate change requires urgent action now (74% for 16-34 years and 53% for 55+ years)
- ▶ 69% believe it is cheaper to act on climate now than pay the price later (74% for 16-34 years and 63% 55+ years)
- ▶ 68% believe tackling climate change in Victoria creates new job and investment opportunities in clean energy (e.g. solar, wind, batteries).
- ▶ 65% believe that householders need to shift away from fossil fuels

Most Victorians are willing to support renewable energy infrastructure in their local area, such as solar farms (69%), wind turbines (62%), new transmission lines (64%), large batteries (64%). (See chart on p.21) Support is significantly higher among younger people and lower among those aged 55+ years.

Although a majority in each age group is supportive, the percentage are lower than measures of support recorded in 2017. Since 2017, the strength of social licence has decreased by between 10 and 20 percentage points. Careful and well-planned community engagement processes are vital, as once lost, social licence is extremely difficult to regain.

Social Licence is the level of support and approval from communities and stakeholders

Attitudes that underpin Social Licence:

67%

Climate change requires urgent action now

69%

It's cheaper to act on climate now than pay the price later

68%

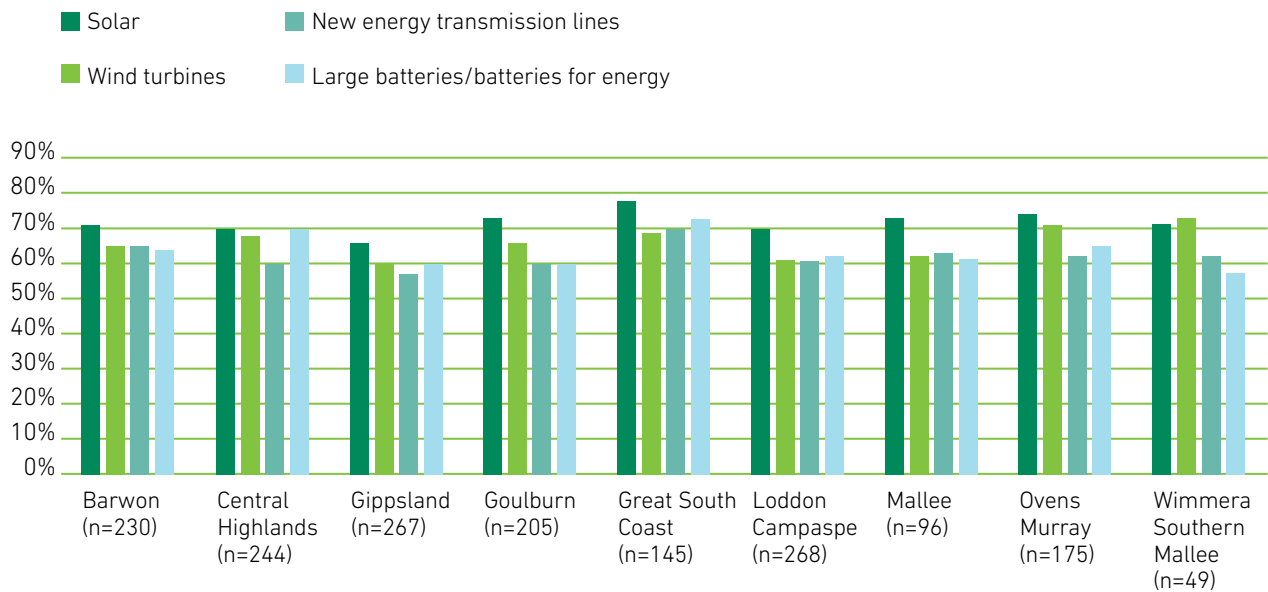
Tackling climate change in Victoria creates new job and investment opportunities in clean energy

65%

Victorians need to shift away from fossil fuels



Support for renewable energy infrastructure is consistent across all regions.



Climate change perceptions - change over time

Sustainability Victoria research from 2010 indicated that although climate change was a concern, it was very much on the periphery. In 2010, the majority of Victorians didn't feel that they, or their family, would be personally affected by climate change and concern about its impacts, such as the occurrence of extreme weather events, was mentioned by only 4%.

A decade on, things have changed considerably. Now one in 10 Victorians (rather than one in 50) ranks climate change as the top priority issue, and most Victorians no longer believe that they won't be personally impacted.

Extreme weather events such as storms, flooding, heatwaves and bushfires are seen as evidence of climate change, and most Victorians (60%) feel that they or their family are likely to be impacted, (up from 4% in 2010).

Climate scepticism remains low and unchanged

Climate change scepticism remains low. Only 8% are classified 'sceptics or deniers' (4% say there is no such thing and 4% say it's entirely caused by natural processes). This figure has not changed significantly for several years, recorded as 7% in 2010 and 2017.



Thermal quality and energy-efficiency of housing

A home with good thermal qualities is not only important for improving energy-efficiency, but is key to maintaining a comfortable inside temperature, better health outcomes, and lower energy bills. Without features that contribute to thermal quality, such as insulation in the roof and walls or draught-proofing, much of the energy spent on heating or cooling a home can easily escape, resulting in wasted energy, higher cost and higher greenhouse gas emissions.

Our research indicates that over one third (38%) of Victorian households have poor to extremely poor thermal quality. Improving the performance of our housing is one of the key ways that Victorians can contribute to reducing carbon emissions.

Thermal quality of housing

In the last 5 years, 40% of homeowners say they have made adjustments to improve thermal performance and energy-efficiency in their home. Despite these changes, there is still significant room for thermal improvement in Victorian homes.

This survey gathered feedback on the thermal features in each home, such as insulation, draught-proofing and double glazing. The mix of features for each respondent was analysed and classified into a 'thermal quality' scale from 'good' to 'extremely poor'. This analysis classified over one-third of Victorian homes (38%) as having poor thermal quality (i.e., poor, very poor or extremely poor).



62%

Classified as acceptable
(good and moderate)



38%

Classified as poor,
(poor, very poor and
extremely poor)

14% Good

Has ALL of these:

Insulation in roof/floor/walls
Double glazing &/or window covers
Draught proofing

48% Moderate

Has insulation in roof

PLUS two or three of these:

Double glazing &/or window covers
Draught proofing

11% Poor

Has ONE insulation type:

Insulation in roof or floor or walls

And one of these:

Double glazing or window covers
Draught proofing

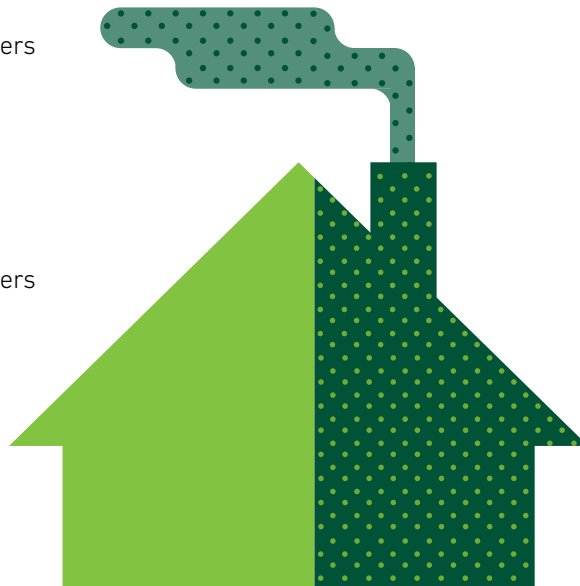
18% Very poor

Has ONE insulation type:

Insulation in roof/floor/walls
Double glazing or window covers
Draught proofing

10% Extremely poor

Has NONE of these features



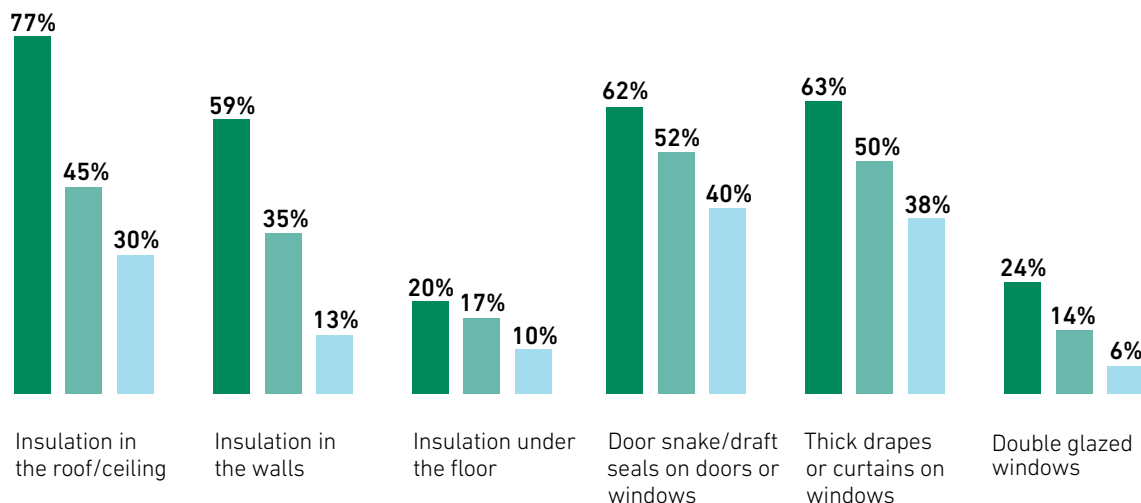
For some thermal features, relatively high proportions of respondents did not know if their home had this feature or not. For instance 18% didn't know if they had wall insulation and 13% didn't know about insulation in the roof. 12% didn't know if they had double-glazing on windows and 5% were unsure about draft-proofing. Those who didn't know were discounted from the classification.

The classification is based on a sample of 1,660 respondents.

Compared to homeowners, renters live in homes with fewer features that contribute to thermal quality like insulation or double-glazed windows. Those in public housing have the lowest number of features.

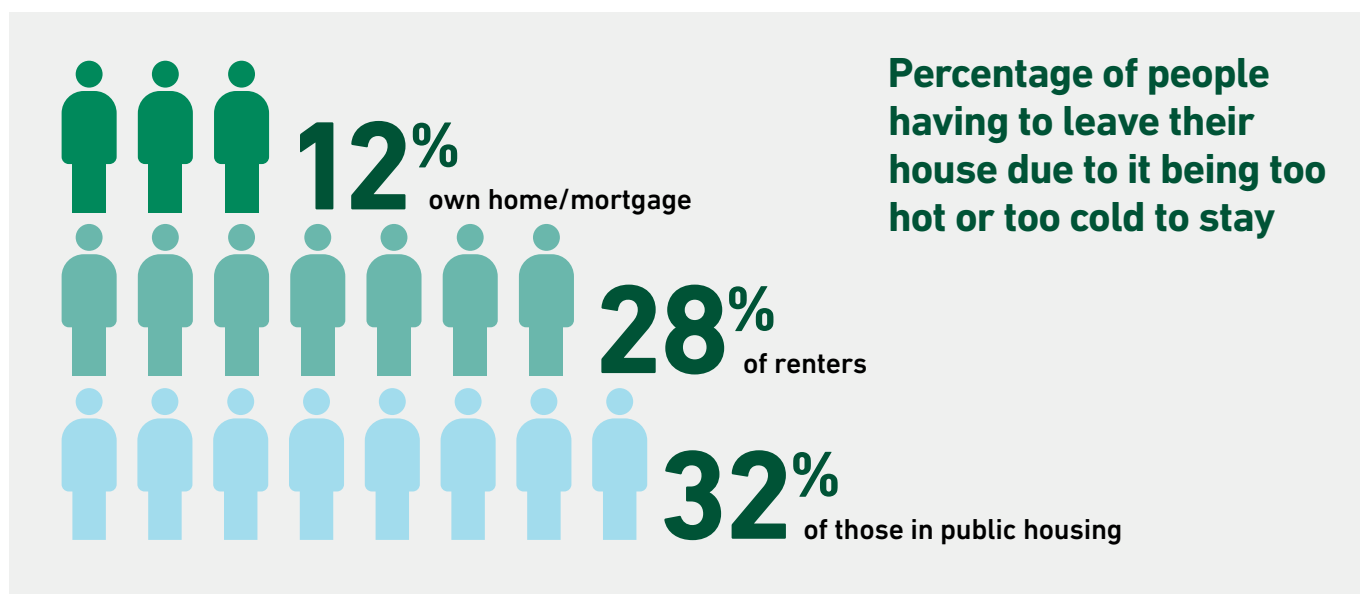
Thermal features in the houses of homeowners, renters and public housing tenants

Owners Renters Rent public housing



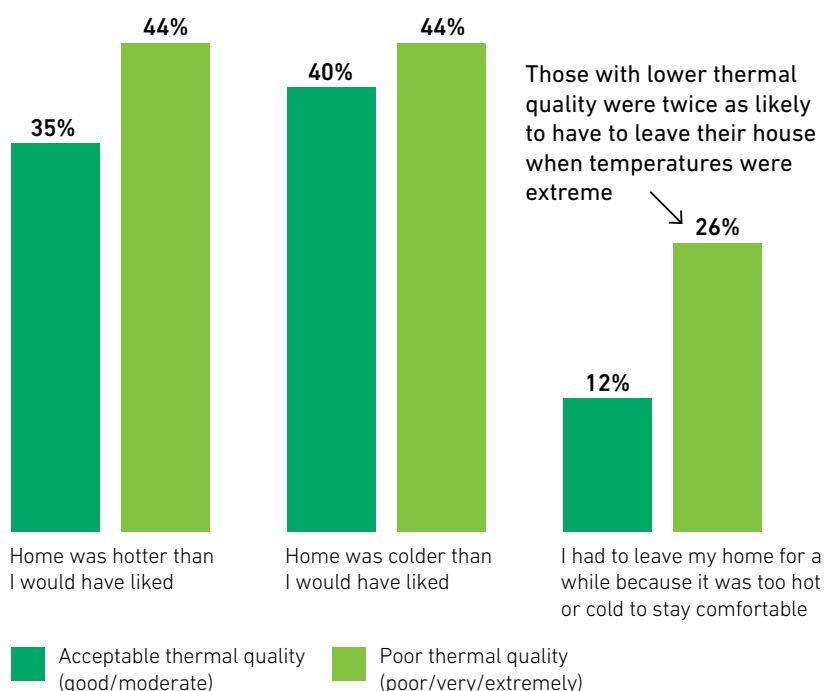
Reflecting the poor thermal quality of housing, significant proportions of Victorians reported feeling too cold in their home during winter (39%), and too hot in their home during summer (44%).

Among home-owners, 12% reported having to leave their home for a while because it was too hot or cold to stay. For renters and people living in public housing, the percentages who had to leave their home due to thermal discomfort were higher, 28% for renters and 32% for those in public housing.



The proportion of people who had to leave their home increased to 26% for those in homes with a 'poor' thermal shell; that is a home with inadequate window coverings and poor or no insulation in the walls, floor and roof, and no draught-proofing.

Thermal quality and reported thermal comfort



As temperatures become more extreme more often, the capacity of homes to keep occupants healthy and thermally comfortable will become increasingly important, and more of a priority for public health.

Energy-efficiency of housing and appliances

As well as auditing the thermal quality features of homes, the survey asked respondents about the energy-efficiency of main appliances, such as heaters, hot water systems and cooking. This information was then analysed and used to classify homes on an energy-efficiency scale ranging from 'optimum' to 'low'.

To boost household energy-efficiency significantly across Victoria, changes in key appliances (heating and/or hot water) need to take place in approximately two-thirds of homes. Heating is of particular concern as it is the single biggest energy cost in Victorian households, contributing 43% of the power bills (on average).

On this scale, 29% of homes were classified as having 'low or no' energy-efficiency.

Energy-efficiency	Appliances	%
Optimum	Key appliances are all energy-efficient heating hot water cooking	10%
Good	Has 2 energy-efficient key appliances heating and hot water	19%
Moderate	Has 1 energy-efficient key appliance heating or hot water	43%
Low	No energy-efficient heating or hot water, only cooking No heating or hot water. Only cooking is energy-efficient	4%
	NO energy-efficient heating, hot water or cooking No heating or hot water or cooking/induction	25%

←
29%
low energy-efficiency
←

For some energy-efficient appliances, relatively high proportions of respondents did not know if they had this appliance or not. 15% didn't know if they had an energy-efficient hot water system, 12% didn't know about an induction cook top and 5% didn't know about the energy-efficiency of their heating. Those who didn't know were discounted from the classification. The classification is based on a sample of 1,950 respondents.

Energy-efficient all-electric homes

When looking at the proportion of homes that are energy-efficient and all electric, with no gas in use, only 3% of Victorian homes meet this criteria.

Only **3%** of homes in Victoria meet the criteria for basic energy-efficient all-electric home

- That is, they have:
- An induction cook top
 - Reverse cycle air conditioner
 - Hot water heat pump
 - and no gas appliances

Light globes and other sustainable living features around the home

- › 72% of homes have LED light globes throughout/in most of the house.
- › 47% have a veggie garden/access to a community garden.
- › 32% have a water tank – for drinking and/or non-drinking purposes.
- › 34% have a compost heap/worm farm/something similar for food waste.
- › 20% use grey water.

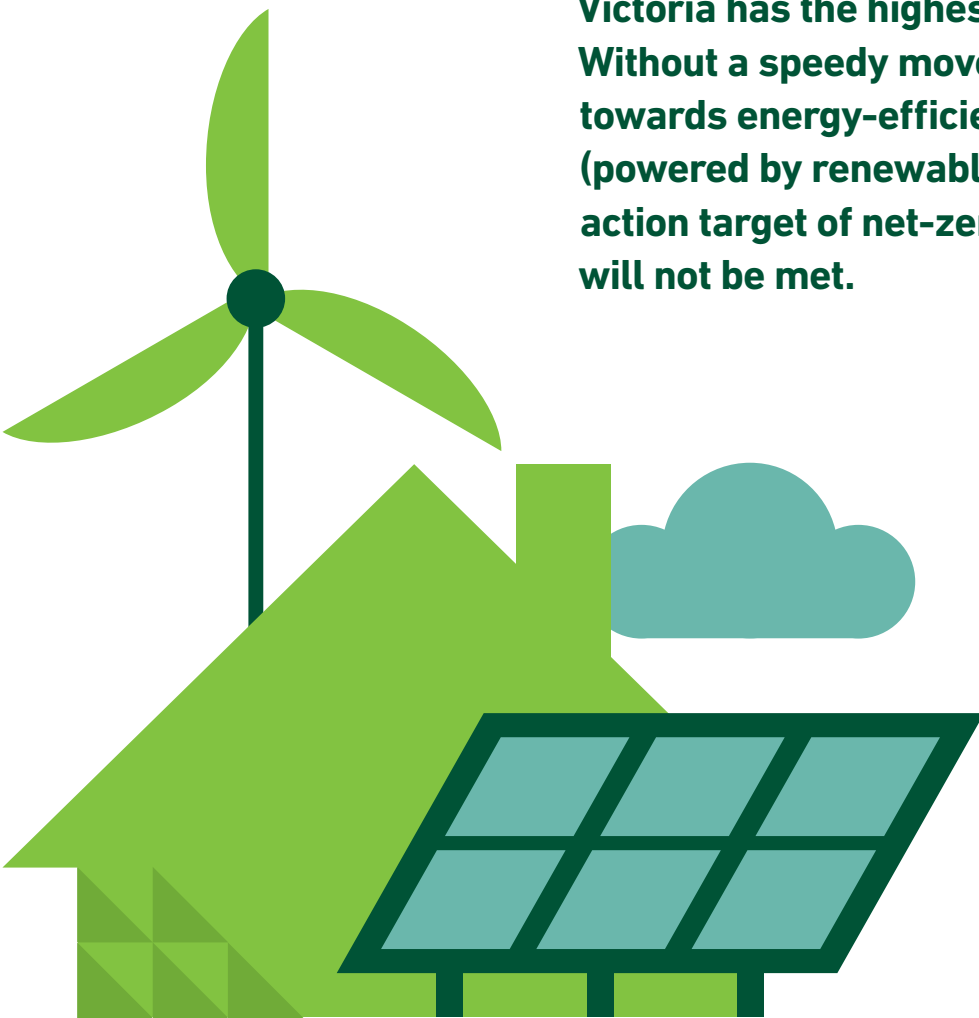




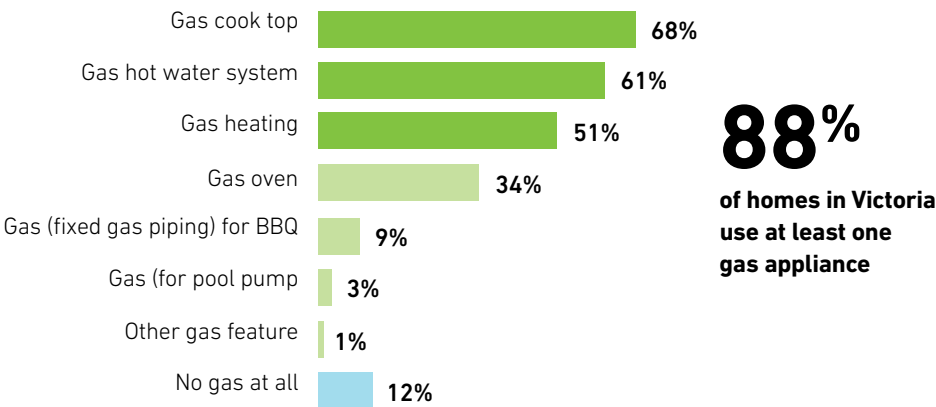
Energy source – transitioning our homes from gas to all-electric



Victoria has the highest gas usage in Australia. Without a speedy move away from gas and towards energy-efficient electric appliances (powered by renewable energy), our climate action target of net-zero emissions by 2045 will not be met.



Victoria is the state with the highest gas usage in homes, with 88% reporting use of gas appliances.



Gas appliances are more common in free-standing houses and in the homes of people aged over 55.

Most households have more than one gas appliance in use, with 40% classified as 'all or mostly gas', that is, they have heating and/or hot water, and one or two cooking appliances all using gas.

Prevalence of gas appliances in Victorian homes

Category	Description	% of homes
All gas	All gas appliances	14%
	Gas heating	
	Gas hot water	
	Gas cook top	
	Gas oven	
Mostly gas	Heating AND hot water is gas	26%
Partly gas	Heating OR hot water is gas	34%
Low level gas	Only cooking is gas	14%
No gas in use	No gas appliances in use	12%

40%
All/mostly gas

Gas use in Victorian homes and propensity to switch to electric appliances

Gas appliance	%	Higher incidence in	Willingness to consider switching to electric*
Gas cook top	68%	Metro location (71%) Free standing houses (73%)	61%
Gas hot water	61%	Free standing houses (65%)	70%
Gas heating	51%	Respondents speaking a language other than English (64%) Free standing houses (59%)	75%
Gas oven	34%	Rentals 44% Public housing 52%	59%

*Respondents were asked to respond with yes/no/maybe. This column outlines the total yes + maybe responses.

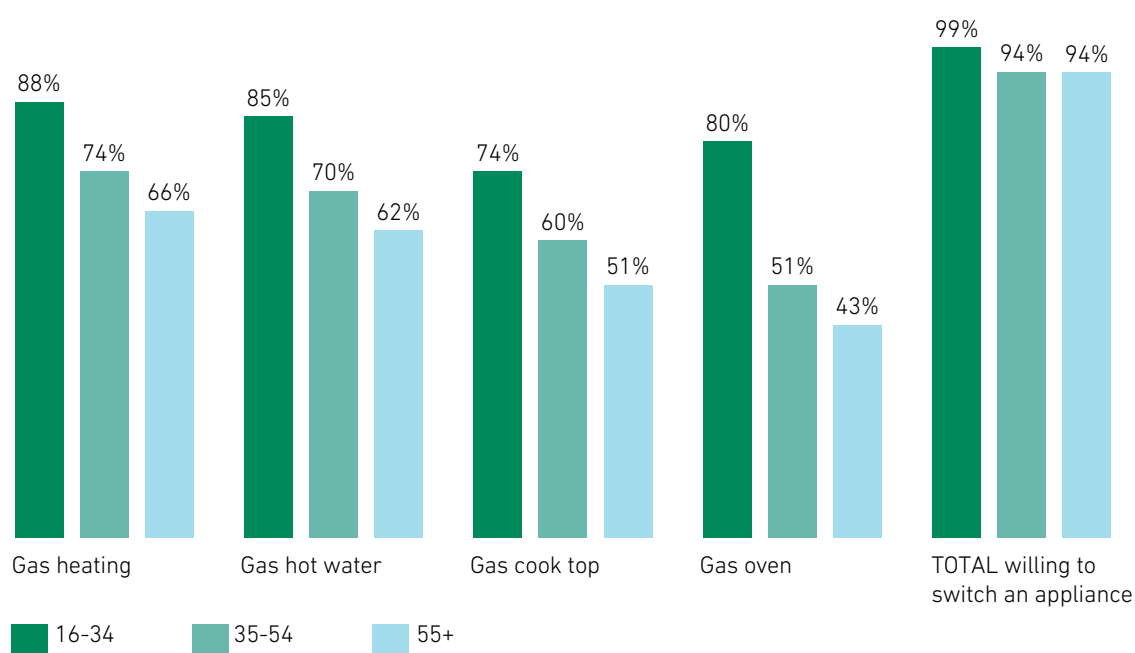
Almost all Victorians (96%) indicated they would consider switching at least one specific appliance from gas to electric, and when asked if they would consider going 'all-electric', 52% said yes.

When asked conceptually about moving away from fossil fuels like gas, 65% of Victorians agree that this shift is important. Despite this underlying positive attitude, and the high levels of willingness to switch at least one appliance, when it comes to the practicalities of moving completely away from gas the results indicate that there are challenges still to be addressed.

Younger people are more willing to switch to electric and those aged over 55 years are less willing. This is problematic given that those aged over 55 are more likely to use gas appliances.

The correlation between age and willingness to switch by appliance can be seen in the chart below. It also demonstrates respondents' preference for cooking with gas and a reluctance to switch to induction cooking.

Willingness to switch from gas to electric varies between age groups



Research recently undertaken in Australia has begun to identify the reasons behind this hesitancy to move completely away from gas.

There are a number of different perceptions being held, which suggest there is a lack of information to make a fully informed decision around electrification and appliance choice.

These include the perception that: it is too much effort to change; the cost of change would be too high; gas is better for heating and cooking; it is a more comfortable option for their home; and is more energy-efficient.

Additionally, concerns around electricity prices and lack of familiarity with the new technologies are also contributing to higher perceived risks. Further work is likely required to better understand the interplay of these perceptions and how best to address misinformation.

Change over time is slow

Analysis of data from earlier Sustainability Victoria surveys reveals the pace of transition to all-electric is not happening fast enough. Over the past decade, gas hot water has decreased 5 percentage points, while gas heating has decreased 17 percentage points. The uptake of all-electric, energy-efficient homes needs to be accelerated as they play an important role in Victoria meeting its 2045 emissions target.

The uptake of home thermal features, use of gas appliances and solar panels from 2008 to 2023

Victorian homes	2008-2010 (average %)	2023 (% of homes)	
Thermal feature			
Wall insulation	36%	52%	
Double glazing	8%	21%	
Draught-proofing	55%	58%	
Gas appliances			
Gas heater	68%	51%	
Gas hot water	66%	61%	
Has gas appliances/gas connection	82% ⁸	88%	
Solar			
	2008-2010	2017	2023
Solar panels	3%	26%	31%

Gas connections will be banned in new homes and government buildings built in Victoria from January 2024. Future editions of this report will be able to track the effect of this policy on pace of transition to all-electric homes.



Attitudes are positive, conceptually

65%

of Victorians agree it's important for households to move away from fossil fuels like gas



96%

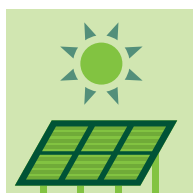
of gas users indicated they would consider switching a specific appliance or two

Challenges still need to be addressed

52%

would consider disconnecting from gas completely

8 <https://www.abs.gov.au/ausstats/abs@.nsf/Products/4602.2~Oct+2009~Chapter~Water%20and%20Energy%20Sources>



Renewable energy, solar panels, batteries and EVs

Approximately 4 in 10 of Victoria's homes use renewable energy (41%).

This is made up of 31% with solar panels (up from 4% in 2010 and 26% in 2017) from their energy provider, and 17% who buy renewable energy from their energy provider. Of the 17% who buy renewable energy, 7% have solar panels and 10% do not.

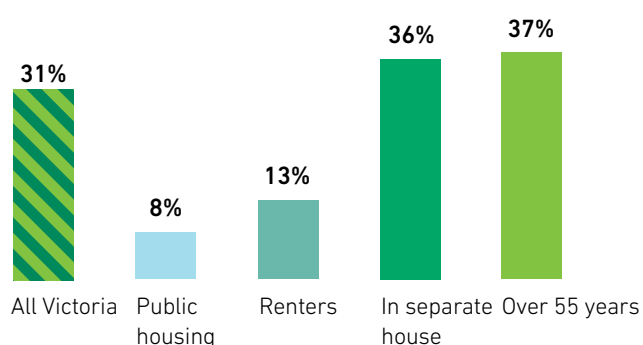
Solar panels are more common among those aged 55+ (37% compared to 31% average) and among people living in stand-alone houses (36%). Those least likely to have solar panels are renters and those in public housing, providing further evidence of the energy divide.

Looking at solar uptake based on socio-economic advantage and disadvantage, solar panels are less common in both the lowest and the highest quintiles⁹.

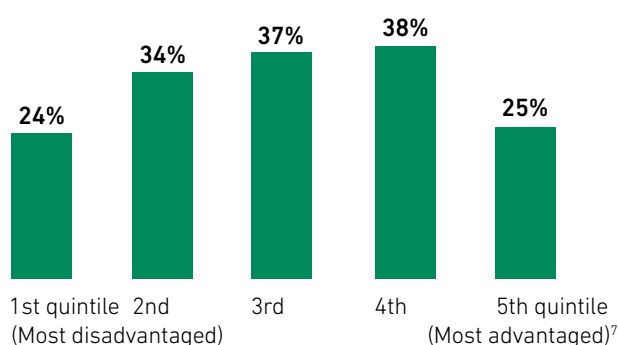
Electric vehicles and transport

The charts below show the take-up of solar panels across different sub-groups.

Has solar panels %



Has solar panels %



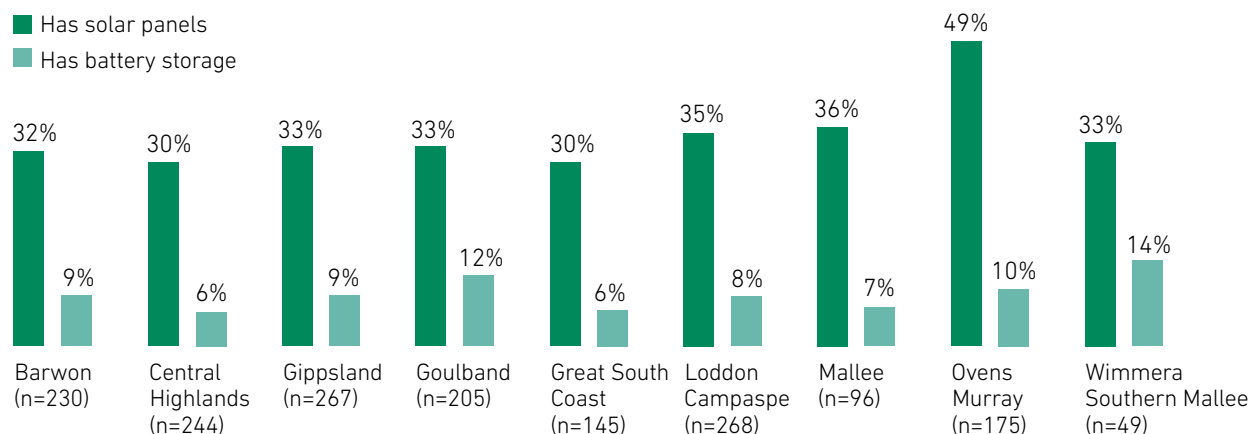
Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) DECILES

⁹ The 2016 SEIFA IRSAD is a general measure of both relative socio-economic advantage and disadvantage at the area level, based on income, education, employment, occupation and housing characteristics. Quintile 1 contains the lowest 20% of scores (the most disadvantaged areas) and quintile 5 contains the highest 20% of scores (the most advantaged areas).

The uptake of solar panels is similar between metro and non-metro locations, and across the 9 regional areas, with the exception of the Ovens Murray region (Alpine Shire, Benalla Rural City, Indigo Shire, Mansfield Shire, Towong Shire, Wangaratta Rural City, and Wodonga City) where almost half have solar panels (49%).

When asked about future purchase, 8% said they plan to get solar panels within the next 2 years, while one-quarter intend to get them at some point in the future. One-third (30%) of Victorians has no intention of buying them now, or in the future.

Solar panels and battery storage uptake by region



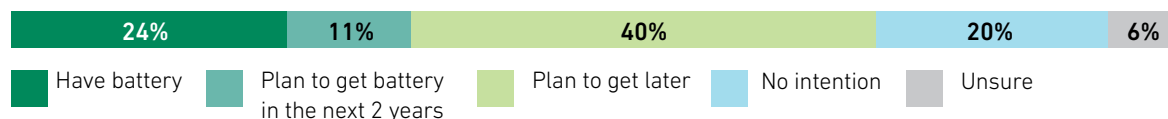
Batteries for storage

Among those with solar panels, almost one-quarter (24%) have battery storage. This equates to 10% of Victorians, up from 5% in 2017.

A further 11% intend to get a battery in the next two years, and an additional 40% intend to get a battery at some point in the future.

Battery ownership and intention to acquire among those with solar panels is shown below.

Battery storage among those with solar panels (n=871)



Does having solar panels make a difference to the use of gas appliances?

Analysis was undertaken to assess if those with solar panels were less likely to have gas appliances. Interestingly:

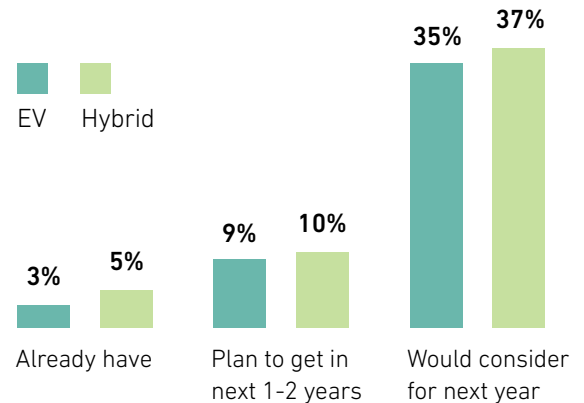
- › Victorians who have solar panels are just as likely to have gas appliances as those without solar panels
- › They are also just as reluctant to disconnect from gas altogether (41% versus 49% for those without solar)

This result suggests an opportunity for households who have invested in solar and who could potentially be making significant cost savings by switching to all-electric. Further research to explore the range of barriers for this group would be useful.

Electric vehicle (EV) ownership and travel

Only 3% of Victorians currently have a fully electric car. It is likely that this percentage will change rapidly over the coming months and years as cheaper models become more widely available in Australia.

Those who are planning to get an EV or hybrid in the next couple years are more likely to be living in Melbourne, aged under 35 years, and living in the wealthier areas.



Commuting to work or study

Two-thirds of Victorians who currently work or study commute via car (drive self, 67%, or carpool/get driven, 6%) while the remaining third take public transport or use 'active' transport.

As shown in the table below, those in metro Melbourne are more likely to use public transport while those in the regions are more likely to drive. These differences reflect structural differences such as the availability of transport options and the distances applicable to each group.

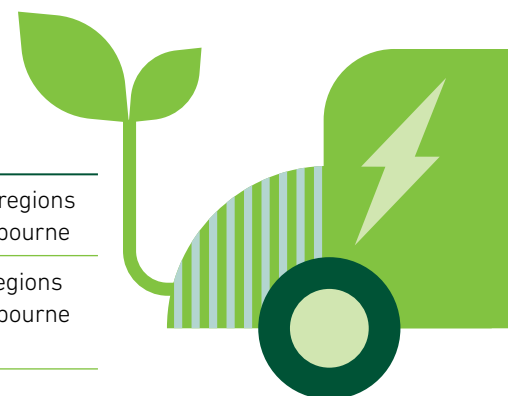
Across age groups:

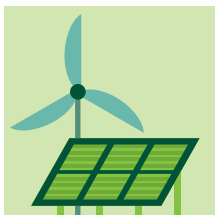
- ▶ younger people are more likely to take public transport (24% of 16-34 yrs compared to 13% of those aged 55+ yrs);
- ▶ older people are more likely to drive (76% for 55+ yrs compared to 61% of 16-34 yrs).

Males were more likely than females to take public transport (22% compared to 15% women), however there was no difference across sex on driving.

As travel behaviours were significantly disrupted during the COVID-19 pandemic, future editions of this research will be able to better establish trends in these behaviours.

Mode	Variation across sub-groups		
	Age	Sex	Location
67% drive or are driven	76% for 55+ 61% of 16-34	No difference	77% in the regions 63% in Melbourne
19% take public transport	24% of 16-34 13% aged 55+	15% women 22% men	6% in the regions 23% in Melbourne
13% use active transport	-	-	-

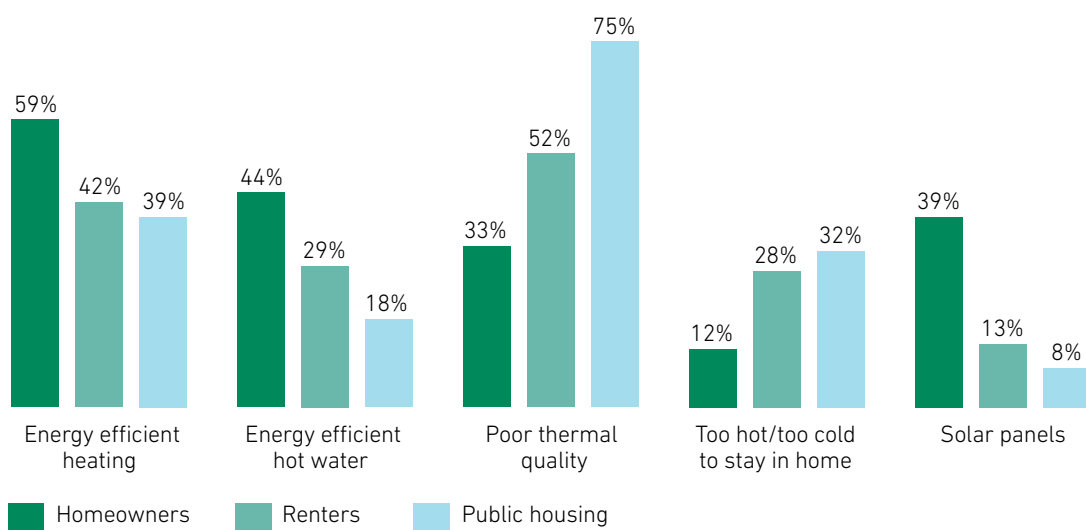




An equitable transition to more efficient and clean energy

As seen in the previous sections, renters and those in public housing have fewer energy-efficient appliances compared to homeowners, along with poorer thermal quality, lower thermal comfort and lower access to homes with solar panels.

Energy efficiency, thermal quality and solar-panel take up varies across housing status



Barriers for renters

Renters, including those in public housing, face more barriers to improving energy-efficiency and thermal comfort. Of the 27% of renters who requested changes from the landlord to improve energy-efficiency and thermal performance, only 15% had their request accepted.

Adjustments requested by renters included features such as:

- › air conditioning/additional units
- › split systems/reverse cycle
- › double glazing
- › fan installation
- › insulation
- › draft excluders
- › block out curtains
- › switching from gas to electric.



15% of landlords said no
27% of renters asked landlord for energy-efficient changes



Awareness of government energy programs

Awareness of government energy-efficiency programs varied, with higher awareness for Solar Victoria solar panel rebates (75%) and solar hot water rebates (57%) than for the Victorian Energy Upgrades program (VEU) (42%).

As might be expected, awareness of all schemes was higher among homeowners:

- › 50% for Victorian Energy Upgrades (VEU)
- › 65% for solar hot water rebates
- › 78% for solar panel rebates.

Take-up for both VEU and solar hot water rebates is low (9%). The take-up of solar panel rebates is higher at 19%.

Government program	Total awareness across Vic	Take-up across Vic
Victorian Energy Upgrades (VEU) program	42%	9% ¹⁰
Solar hot water rebates	57%	9%
Solar panels rebate	75%	19%

Awareness of the solar rebates

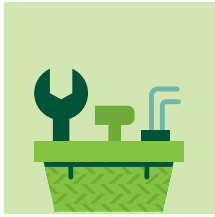
The sub-groups least likely to be aware of the program are:

- › younger people (69%)
- › those with lower education levels (66%)
- › renters (59%) and those in public housing (56%).

The sub-groups most likely to have used the program are:

- › older (28% of 65-74 years)
- › those who own/are paying off their own home (26%)
- › have a degree (24%).
- › Across location, take-up of the rebate was lowest among those living in the more disadvantaged suburbs. There was no difference between metro and regional areas.

¹⁰ This percentage of take-up is similar to the figure the University of Melbourne and Brotherhood of St Laurence found in their recent social research. Their research recorded an 11% take-up, however their sample was low-income households so take-up rate might be expected to be slightly higher than average. Based on this, the finding of 9% is interpreted/determined to be an accurate estimate.

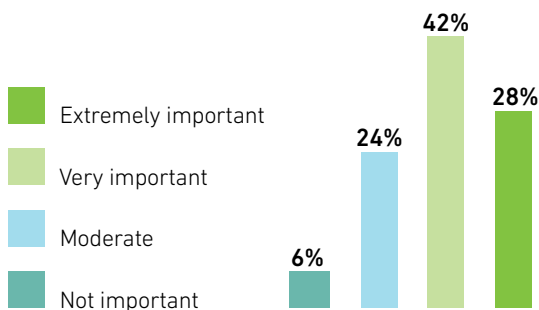


Building a new home or renovating

One-quarter (26%) of the survey sample had recently undertaken, or were planning to undertake, a home renovation or new build).

For this group, energy-efficiency was an important factor in the decision-making, with 70% rating it as 'extremely' or 'very' important, and 75% saying they have looked or will look for ways to make their home more energy-efficient and sustainable.

Energy-efficiency is an important factor in the decision-making



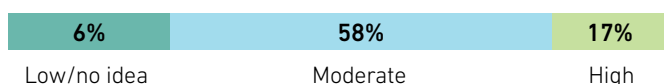
75%

Will look for ways to make their home more energy-efficient.

Only a few rate their understanding of energy-efficient features as 'high'

Even though most (75%) renovators and new home builders are seeking information about energy-efficiency, only 17% report having a 'high' level of understanding of how specific features contribute to energy-efficiency, and 71% want to know more about 'making my new home energy-efficient / better able to keep in the warmth in winter and stay cool in summer'.

Rate your understanding of the features and factors in a house that are important for maximising the home's energy use



71%

Of Victorians renovating or building new homes would like to know more about making their home more energy-efficient.

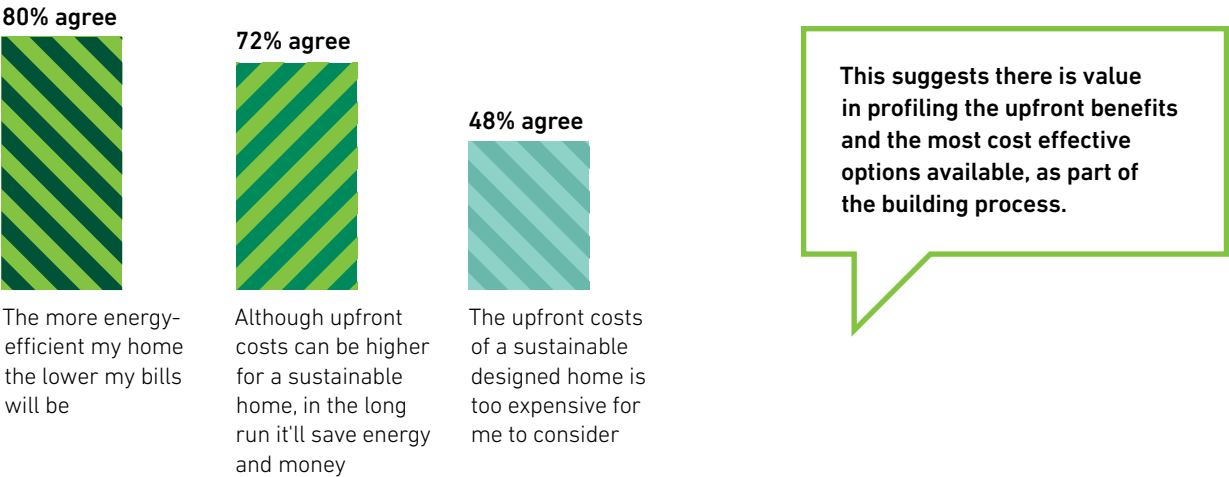
This research demonstrates the importance of education and literacy-building around energy-efficiency for new home builders and renovators.

Upfront cost is a barrier

The link between energy-efficiency and cost savings is clearly understood, with the majority of Victorians who are renovating or building agreeing that higher energy-efficient homes will result in lower energy bills (80%).

Most (72%) also acknowledge that higher upfront costs of a more sustainable, energy-efficient home would be covered in the long run. However, despite this understanding, almost half feel that the upfront cost of a more sustainable home is too expensive for them to pursue (48%).

The value is understood, but upfront cost is seen as a barrier to more energy-efficient, sustainable homes.



What would help?

Respondents believed that the following factors would help make choosing sustainable design easier:

Lower cost	66%	Lower costs of sustainable features
More accessible Information	51%	Better availability of credible advice
	51%	Easy comparison of future cost savings on energy use
	44%	Tradespeople/builders to be better informed on this subject
Greater availability of sustainable materials	50%	Half had explored the use of recycled/reclaimed materials

Gas versus electric when renovating or building

Those renovating or building were asked about their preference regarding new appliances and over half (58%) agreed that they'd like (61% preferred electric) to choose electric appliances over gas. Electric was (43%) more likely to be preferred by the 16-34 years age group than the over 55 years.



Sustainable behaviours and the circular economy

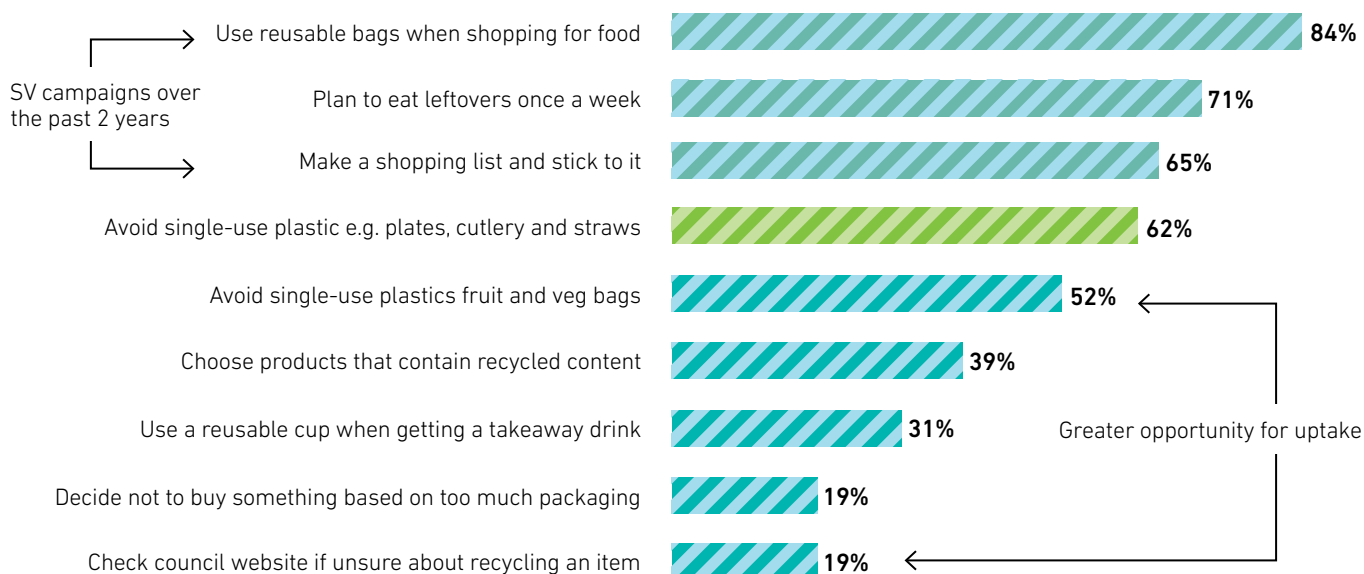
The majority of Victorians (70%) believe that living sustainably is important and most (56%) are thinking more about how best to do this.

While there are slight variations, this underlying positive attitude is consistently held by a majority across all demographic groups and regions.

Aligning with this attitude towards sustainability, we can see that most Victorians consistently use reusable bags when shopping (84%) and undertake behaviours consistent with lower food waste, such as planning to eat leftovers (71%) and shopping with a list and sticking to it (65%).

These top 3 actions have been the focus of SV behaviour change campaigns run over the past couple of years.

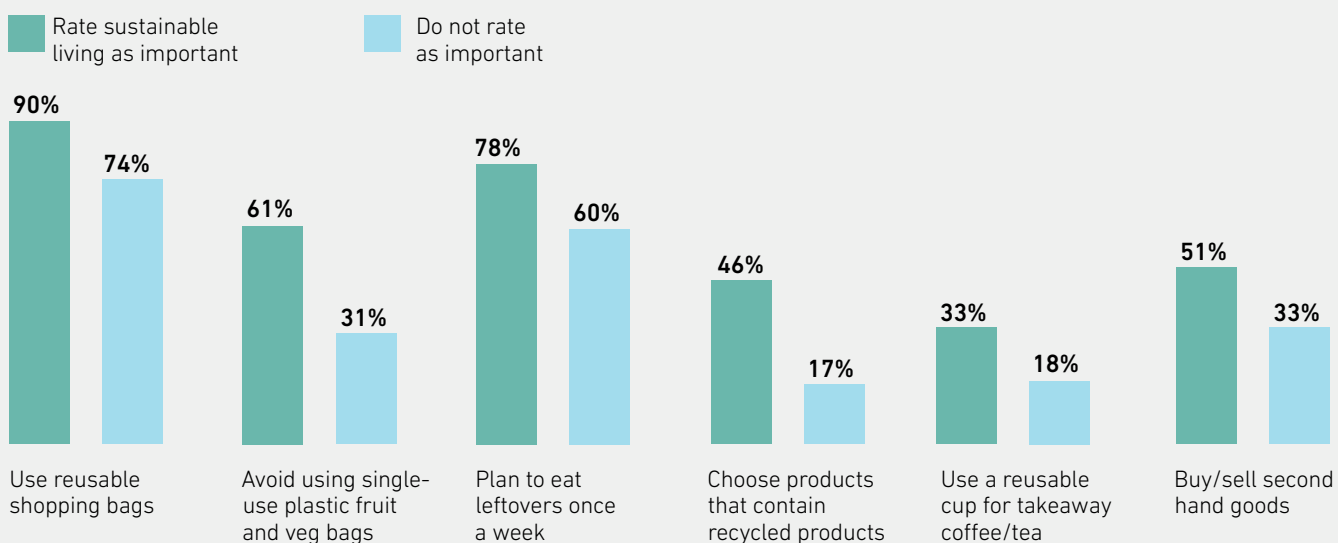
Always or mostly do these



As might be expected, believing that it is important to try to live sustainably is positively correlated with pro-environmental behaviours.

The chart below shows a higher incidence of sustainable-living behaviours among those who believed that living sustainably is important.

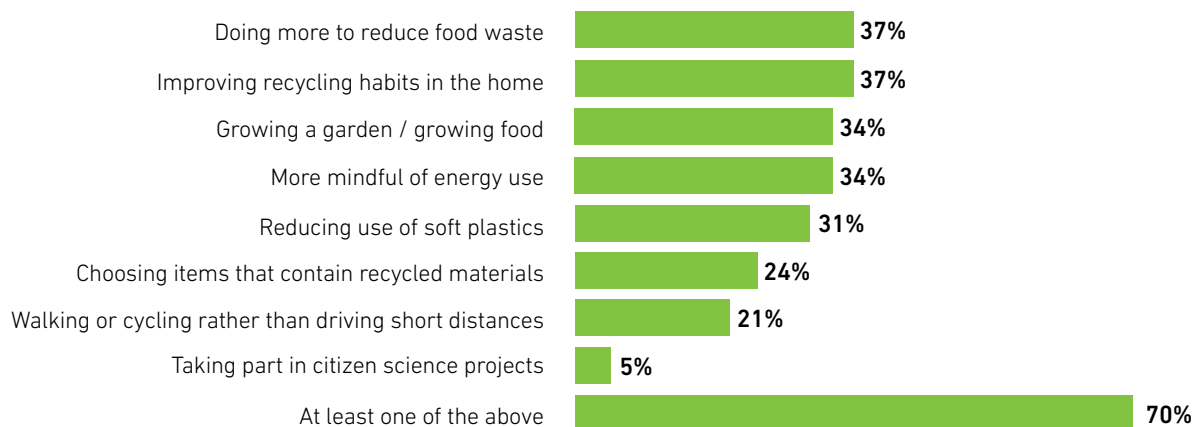
Household behaviours by attitude to living sustainably



School kids influence sustainable behaviours in the home

Most households with school-aged children say their child's learning from school has influenced the take-up of sustainable behaviours in the home (70%). Recycling, reducing food waste, growing food and mindful energy use were the top behaviours.

Behaviours in the home influenced by child's learnings from school



Other pro-environmental behaviours measured are shown below.

Energy related behaviours	Two-thirds check energy-efficiency ratings before buying new appliances. Over half (56%) have an energy monitor in the home. Two-thirds of those asked through their energy provider to reduce energy use during times of peak demand agreed to do it. (Note, only 27% had been asked to do this.)
Highly impactful climate actions	7% have attended climate rallies (double among the 16-34 years age group). 9% have switched bank or super provider to a more environmentally friendly institution.
Environmental volunteering	One-quarter (25%) have volunteered for environmental or other community activities (increasing to one-third for those aged 16-34 years). 8% have volunteered for renewable energy projects.

Understanding of the circular economy

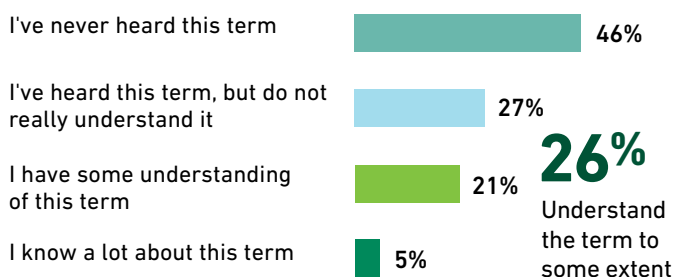
When asked about the term 'circular economy', half of Victorians said they have never heard of it (46%) and a further 26% have heard of it but don't really understand it.

Only 5% know 'a lot' about the term, with an additional 21% acknowledging 'some' understanding. Fewer in regional Victoria understand the term compared to Melbourne (17% and 30% respectively).

Circular economy

A circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing and recycling existing materials and products to maximise their lifecycle and keep them in use as long as possible.

Have heard of the term 'circular economy'



Buying/selling in the second-hand economy

Despite their lack of familiarity and understanding of the term, most Victorians have participated in the circular economy by buying, selling and/or donating second-hand items online or through visiting an op shop and/or second-hand store.

Avenues for trading in the second-hand economy are utilised differently across location and age group, with online platforms more commonly used in the regions, and op shops more commonly used by the under 45s.

Overall:

- ▶ 69% have bought from or donated to an op shop in the last 12 months
 - 80% of those aged 16-34 years have bought or donated compared to 62% of the over 55 year olds.
- ▶ 60% have bought/sold from an online platform in the last 12 months
 - Trading online was more common among those living in the regions (50%) than in Melbourne (35%).

Bought/sold second-hand items from shop/op shop



Bought /sold second-hand items on line



BehaviourWorks Australia research on "Behavioural Roadmap to Circular Consumption" has shown that buying second-hand instead of buying new will be an integral step toward transitioning Victoria to a circular economy"¹¹

¹¹ www.behaviourworksaustralia.org/major-project/responsible-consumption-behavioural-roadmap-to-circular-consumption

Repairing, leasing and hiring – a new norm is needed

Other behaviours that help support the circular economy by reducing waste and keeping goods in use for as long as possible include the use of repair services, as well as borrowing, hiring or leasing items rather than buying.

These forms of circular economy participation are currently less utilised by Victorians:

- › one-quarter (24%) have used repair services; and
- › approximately 10% have used borrowing/leasing or hiring services 'often' or 'sometimes'.

To transition to a circular economy, we need services like repair cafes, exchange libraries, leasing and buy-back schemes to be highly visible and highly accessible. We need to build consumer confidence in these services as the 'new normal' and support 'buying to last' consumption patterns, as opposed to the 'throw-away', linear consumption pattern that is most common.



Victorians' expectations of government

Local government

Victorians would like to see their council act on climate change across a wide range of initiatives.

These include:

- › transitioning more urgently towards renewables (17%)
- › offering support to adopt energy-efficient systems (incentives/rebates for solar) (14%)
- › promoting and providing more advice on making sustainable choices (11%).

While 21% said they were 'unsure' of what council should do, and 14% said 'nothing', this question nevertheless demonstrates that the bulk of the community (two-thirds) hold the expectation that their council should be acting on climate in some way.

A wide range of actions are expected of the local government

17%

Transitioning more urgently towards renewable energy sources

14%

Offering incentives /rebates to adopt energy-efficient systems

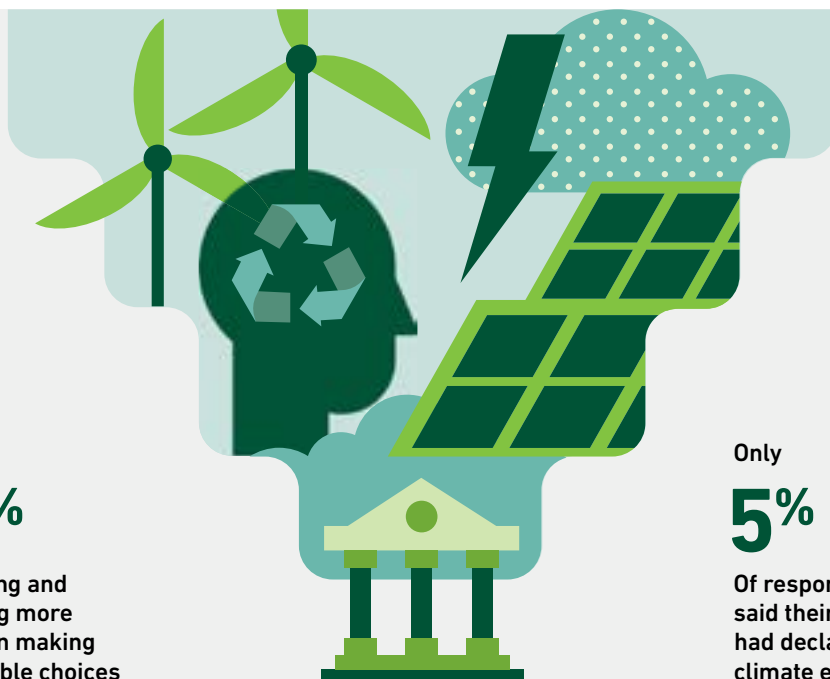
11%

Promoting and providing more advice on making sustainable choices

Only

5%

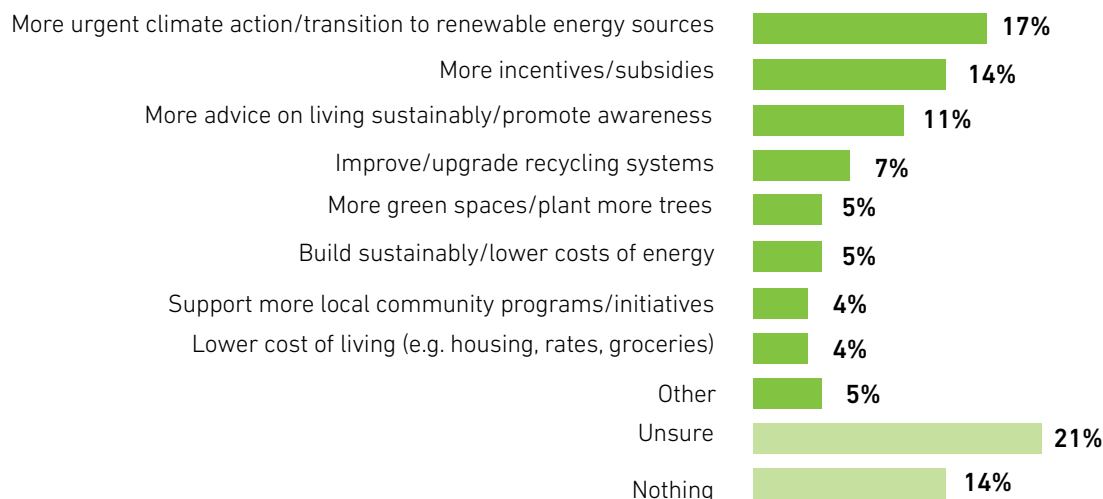
Of respondents said their council had declared a climate emergency



The majority of Victorians (60%) said their council had not declared a climate emergency and one-third (35%) were unsure. Only 5% said yes. In fact, 44% of the local governments in Victoria have declared a climate emergency. As such, these results indicate low awareness around the issue.

Other actions people expect from local government are shown below.

What people expect from local government regarding climate action



State government

Approximately 75% gave a response to the open question asking what they'd like to see the state government do to help them live more sustainably. This level of participation shows engagement on the subject area and many of the responses indicate a high level of awareness of what is going on, and what the government is already doing.



Victorians want government action in 3 key areas:

32%

More education and advice on tackling climate change

32%

More urgently accelerating Victoria's transition to renewable energy

27%

Support to transition to more energy-efficient homes, especially for lower income earners and renters



Ways to better support the transition to more efficient and clean energy included:

- › more subsidies, more incentives/grants
- › lower costs, more help for low income.

Other significant mentions included action around improving waste collection (10%)

- › improve soft plastics recycling
- › improve recycling centres.

Support for policy that would drive energy-efficiency in homes and apartments

There was also reasonable support (58%) for mandatory disclosure of the running costs of a house or apartment at the point of sale or rental.



In Victorians' own words about local government ...

"Provide information to allow people to reflect on the impacts of climate change to be better informed to start making better decisions for our environment and future. Offer easy and low cost/free installation/swaps of basic products."

"Subsidise solar panels for all homeowners and offer a low interest repayment plan with a few options available. I would also like to see the same or similar for better cars."

"Make sustainable choices more accessible, e.g. community hub in my town where people can grow food, recycle, share things etc."

"Make recycling easier and more accessible. Invest in recycling plants."

"Assist low income earners to help them be able to better access and afford more sustainable appliances, with improved rebates. Improved recycling systems such as food waste, making more affordable compost systems."

"I would like to receive more information from our local council to advise the community on what we can do in our own homes and around the town to do our part to reduce our impact on climate change. It would be great to have local information on the local government website or from brochures in the mailbox."

"Help keep rentals affordable and more efficient, help renters get solar energy and subsidised housing and efficient appliances and insulation."



In Victorians' own words about state government ...

"Close down more polluting plants and get going further with renewable energy and especially do rebates for electric vehicles and don't put road taxes on them like they're doing."

"I believe they are doing a good job with solar rebates, heat pump hot water services, LED light conversions etc."

"Provide access to more sustainable options, community gardens, repair cafes, buy nothing events,"

"Better recycling system, collection of more recyclable materials and compostables."

"Stage more Detox your Home events!"

"At the moment adding the words 'green', 'renewable' or 'sustainable' is simply a marketing tool ... The correct way would be to make these the cheaper alternative which would entice so many more people into making positive change."

"More grants to help with transitioning houses to be more climate friendly."

Conclusion and opportunities

State of Sustainability provides unique insight into how sustainably Victorians are living. The research shows us where we are performing well and identifies opportunities for Victorians to take action to live more sustainably, more affordably and in a way that contributes to making our local communities more climate resilient. It also identifies how government policy could help address some of our key challenges.

Key findings:

- ▶ While cost of living is the top issue on people's minds, concern about climate change remains high. Victorians recognise that climate change impacts many parts of their lives, from increasing the cost of living to the effects of extreme weather events. Connecting action on climate change to Victorians' issues of concern can help mitigate the fact that climate change worry has increased for many, influenced partly by the belief that there is room for governments to do more and that Australia is falling behind other countries in the transition to net zero emissions. For example, there is opportunity to promote sustainable behaviours that can also decrease the cost of living, such as reducing energy bills through the installation of energy-efficient home appliances.
- ▶ The report highlights that a large proportion of Victorians are living in homes with poor thermal quality and low energy-efficiency. Many rely on gas to power appliances, heating and hot water. People in these homes are not getting the comfort or protection needed when temperatures become too warm or too cold, and many are deciding not to use heating or cooling because of the running costs of appliances. A poorly insulated home can have a negative impact on the occupants' overall health and wellbeing, and leaves people vulnerable and potentially unprotected from a changing climate.
- ▶ The thermal quality and energy-efficiency in the homes of renters and people in social housing is significantly lower when compared to homeowners. Our research shows that over one-quarter of renters had asked for changes to improve the thermal quality and energy-efficiency of their home, such as installing insulation or upgrading to an energy-efficient appliance, with only 12% having any success. These findings indicate a clear need to address these differences and ensure all Victorians can improve the quality of their homes and use cleaner energy to power them. Most survey respondents support compulsory disclosure of a home's energy running costs at the point of sale or rent – an area where policy changes could improve housing for renters and prospective buyers.
- ▶ Victorians want more action from local and state government on climate change. They want a faster transition to renewables and support for householders to become more energy-efficient, particularly for renters and those on lower incomes.
- ▶ In line with Victorians' support for climate action there is general widespread support of renewable energy infrastructure like large batteries, transmission lines, solar farms and wind turbines. Although over 60% are supportive, general public acceptance is decreasing and has fallen 20 percentage points in four years. It will be important to closely engage with communities, as their ongoing support is vital for our state's renewable energy future.
- ▶ Most Victorians have very little understanding of the term 'circular economy', with many unfamiliar with the term. Despite this, over half of Victorians are participating in circular economy behaviours such as buying or selling second-hand goods. More action is still needed to encourage the use of repair, loan and lease services, or to encourage consumers to make do with existing items rather than acquiring them new. To transition to a circular economy, we need to create services that make waste avoidance possible, like repair cafes, exchange libraries, leasing and buy-back schemes. We need to build consumer confidence in these services as the 'new normal' and support 'buying to last' consumption patterns, as opposed to the 'throw-away', linear consumption pattern that is most common. As the report also reveals, sustainable behaviours are often influenced by children bringing home learnings from school. An effective and accessible way to build community knowledge about the circular economy could be through schools.

Based on the findings of this report we have identified the following opportunities:

- › Leverage community attitudes that support more action on climate change. Victorians need practical support to reduce energy use (and carbon emissions), lower bills and improve thermal comfort of their homes. This includes initiatives specifically aimed at fast tracking the transition to all-electric homes.
- › Look for opportunities to scale up programs similar to Sustainability Victoria's Healthy Homes which demonstrated that better quality thermal homes are healthier, cheaper and produce lower emissions. Every dollar saved on energy saves ten times that amount on health costs.
- › Collaborate with social justice leaders and organisations to develop and test solutions that improve renter and social housing accommodation.
- › Explore the role government policy can play in increasing the uptake of energy-efficiency improvements in Victorian homes, and the extent to which this leads to lower energy bills and lower emissions, particularly in rentals and public housing.
- › Building understanding, support, and participation in the circular economy is key. Schools could be incentivised to take the lead as important community hubs and supported to host repair cafes, no-waste community events, and school-based education such as the ResourceSmart Schools program.

Glossary of terms

Circular economy

A circular economy describes a system of how resources can be used in a more sustainable way. It focuses on keeping materials in use for as long as possible through processes like reuse, refurbish, remanufacture, and repurpose and by designing out waste and pollution, and regenerating natural systems.

Home energy-efficiency

Energy-efficiency means using less energy to get the same result. Like replacing old inefficient home appliances with newer, more energy-efficient ones, a home will have the equivalent heating, cooling and hot water but will be using less energy. State of Sustainability (SoS) measures home energy-efficiency by evaluating the energy-efficiency of heating, hot water, and cooking appliances.

Just or equitable transition

When applied to the energy transition – the transition away from fossil fuels to clean, renewable energy – an equitable or just transition means that everyone in our society, including the most disadvantaged, those in public housing and renters, can access affordable electricity.

Social licence

Social licence is the level of acceptance and approval that is continually given by local communities and other stakeholders to take action. If social licence exists, it means the community trusts, supports and approves of it. An important characteristic of social licence is that there is no written agreement or formal licence as it's built on trust, and it can be withdrawn at any time.

Sustainable living

Sustainable living describes a lifestyle based on actions and decisions that attempt to use less of the earth's resources and minimise negative impacts on the environment. SoS assesses sustainable living through a mix of housing measures and individual actions. Housing measures include: energy source used, energy-efficiency of main appliances (heating, hot water and cooking) and the home's thermal qualities, such as insulation, draft-proofing and window coverings. For individuals we look at behaviours that minimise energy, waste and pollution and maximise reuse, repair and correct recycling.

Renewable energy

Renewable energy comes from natural sources that are constantly replenished at a higher rate than they are consumed. Generating renewable energy, like from sunlight and wind creates far lower amounts of harmful greenhouse gas emissions than burning fossil fuels like coal, oil and gas, and is key to addressing the climate crisis.

Thermal quality / thermal shell

Thermal quality or thermal shell refers to the features of a home (including roof, floor, walls, windows, external doors) that separate the air inside from the air outside. This separation helps keep internal temperatures stable and comfortable for longer in the face of external temperature fluctuations. In most climate zones, good airtightness and good insulation are important properties of a high quality thermal shell. SoS measures thermal quality via questions on insulation, draught-proofing and window coverings.