

State of Sustainability Report 2024



Sustainability
Victoria



State of Sustainability Report 2024

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Acknowledgement of Country

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, and for their unique ability to care for Country and deep spiritual connection to it. We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

We acknowledge that we live and work on the lands of the world's oldest and most sustainable culture. We acknowledge the deep connection to Earth of First Nations peoples and their invaluable contributions to our understanding of climate change and the environment.

We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.

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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Introduction

To transition Victoria to a circular, climate-resilient economy, we need to understand how sustainably Victorians are living. In April 2024, Sustainability Victoria undertook the second wave of its multi-year study to measure 'sustainable living' among Victorians. The program builds on findings from previous surveys and this report highlights significant changes between survey periods.

The data and insights gleaned from this research add to the evidence base that informs government policy and programs.

Sustainability Victoria will continue to track Victoria's progress over the next few years and deliver findings on where Victorians are doing well and where government policy, programs, or education and behaviour change support are needed.

Survey participants

We surveyed 2,552 Victorians aged 16 years and older on their attitudes, behaviours and the actions they're taking to live a more sustainable life. Respondents completed the survey between 4 April and 15 May 2024 and were drawn from all 10 Victorian regions. Further information about the survey methodology and a list of the 10 Victorian regions is available in the 'Methodology' chapter.



Summary of key insights

This year's survey highlighted Victorians':

- increasingly common lived experience of extreme weather events
- continued concern about climate change
- increasing awareness of circular economy
- participation in repair and recycling programs
- uptake of household energy efficiency actions and renewable electricity.

67%

of Victorians are concerned about climate change. Lived experience and the impacts of extreme weather are key drivers.

Climate change

- Climate change concern remains high compared to other issues. Cost of living is ranked first, followed by housing, healthcare, and roads and transport closely followed by climate change, which is considered more important than employment and education.
- Almost one-quarter of Victorians rank climate change in their top 3 priority issues.
- 83% of Victorians have experienced at least one extreme weather event in the past 5 years and 47% have experienced 3 or more extreme events.
- 61% of Victorians believe the move to renewable energy helps Victoria lower greenhouse emissions and stops climate change getting worse (53% for 55+ years).

80%

of Victorians would prefer to buy products that can be serviced, repaired or work for longer.

Sustainable living and circular economy

- 68% believe living sustainably is important.
- 85% feel positive about reducing the amount of waste going to landfill.
- 60% would like more support and advice on repairing things.
- 59% would like to know more about correct recycling practices.
- 61% would like information on growing food and composting.
- 69% return batteries and e-waste to collection points, but 31% do not.
- 66% return containers through the Container Deposit Scheme, and the remaining 34% have never used it.
- 78% say that how long a product lasts and how easy it is to repair is important to them when buying.
- 69% would like to buy from organisations that take back their old products and reuse and recycle the materials.
- 47% say they are willing to pay more for products that are easily repurposed or recyclable at the end of life.
- 72% of people who bought second-hand clothing say it reduced the amount of new clothing they subsequently bought.
- 34% of Victorians are familiar with the term 'circular economy', an increase of 8% compared to last year.

67%

of Victorians already buy or sell second hand clothes and other items, which contributes to a circular economy.



In a circular economy, new products are designed for quality and longevity and **resources are reused as much as possible**. Instead of throwing things away, we **reuse, repair or recycle** them. **Landfill** is only used as a **last resort**. Fewer new resources are needed to make things, which **reduces our impact on the planet** and makes our **communities more sustainable**.

72%

of households could benefit from more energy-efficient heating, hot water and cooking appliances.

Housing and energy use

- 60% of households have good or moderate levels of insulation, double glazing, window covers and draught proofing in their homes.
- 40% of homes have poor to extremely poor thermal quality, including 11% with no known insulation, double glazing, window covers or draught proofing.
- Twice as many renters (28%) leave their homes temporarily because it's too hot or cold to stay, compared to 11% of homeowners.

Switching from gas to electric

- 95% of gas users indicated they would consider switching one or two appliances to electricity.
- 60% would consider switching their gas cooktop, 65% would consider switching their gas oven, 70% gas heating and 67% gas hot water.
- 53% of gas users would consider disconnecting from gas altogether, while 47% do not want to disconnect completely.
- Barriers to switching include perceptions that gas is cheaper and more reliable, and that it's too expensive to upgrade.
- Some respondents prefer gas for cooking, and some can't switch because they are renting – this is especially the case for respondents under the age of 34.
- 48% of Victorians are aware that switching households from gas to electric appliances will help tackle climate change.
- 32% don't believe it is important for households to go all-electric.
- 20% are not aware that switching from gas to electric appliances will help address climate change.

Most Victorians support transitioning households from gas to electricity. Younger people show the strongest support, but face more barriers as a higher proportion are renters.

35%

of Victorian households use renewable energy. Regional householders are leading the way with their high uptake of solar panels.

Renewable energy

- The majority of Victorians support renewable energy infrastructure in their local area: 65% support solar farms, 59% wind turbines, 60% new transmission lines, 66% offshore wind turbines, 68% neighbourhood batteries, and 62% support large batteries.
- 66% of Victorians believe tackling climate change in Victoria creates new job and investment opportunities in clean energy.
- The Ovens Murray region has the highest percentage uptake of renewable energy: 51% of households have installed solar panels and 14% have installed batteries.





Climate change

Priorities and concerns of Victorians

Overall, climate change ranks fifth when asked about 'issues of importance for Victoria', slipping from fourth position in 2023 (albeit by only 1%). Cost of living remains the number one priority for Victorians, followed by housing affordability, healthcare, roads and transport, climate change, employment, and education.



Almost one-quarter of Victorians (23%, down from 26% in 2023) rank climate change as a top three priority issue, and 8% rank it as the number one issue (down from 11% in 2023). People in Melbourne are more likely to rank climate change as one of the top three priorities (25%), compared to those in regional Victoria (16%).

In 2024, the overall priority ranking of climate change was mostly impacted by significant shifts in the 16 to 24 age group. In 2023, 30% of the younger age group ranked climate change in the top three issues of importance, however, in 2024 this fell to 23%. This decrease among the 16 to 24 age group was large enough to reduce the overall state-level result for climate change as an issue of importance.

Cost-of-living pressures are all encompassing for young people and have led to climate change becoming a lower priority for them.

'I used to say, "No other issue matters if there is no planet to live on" but the cost of living crisis is now so dire, it has taken some of my climate alarm away.'

Quote from a survey participant aged 16 to 34 years

Climate change concern remains high

Despite slipping as a priority issue, most Victorians (67%) remain concerned about climate change, (24% 'very' concerned and 42% 'fairly concerned'). This is a 5% decrease on the previous year (72% concerned in 2023).

Demographic sub-groups more likely to report feeling concerned about climate change include:

- those with a higher education (75%)
- people aged 16 to 34 (72%)
- people living in Melbourne (70% compared to 57% in the regions).

Similar to 2023 results, just over one-third of Victorians (35%) report feeling more concerned and worried about climate change now than they did 12 months ago. This increase is driven by various factors, including:

- catastrophic climate events
- more evidence about the impacts
- changing weather patterns
- more media coverage
- perceived lack of government action.

Victorians tell us what is driving their increased concern

'My awakening to the urgency of climate change came from witnessing the devastating effects of extreme weather events in my own community. Seeing homes destroyed and lives uprooted by floods and wildfires.'

(16 to 34 age group)

'I do not think the government is doing enough to cut emissions and to protect the environment and the impacts of climate change are getting worse.'

(35 to 54 age group)

'Extreme weather events around both Australia and the rest of the world. Extreme temperatures, extreme weather causing massive natural disasters.'

(35 to 54 age group)

'More media coverage and attention and increased incidence[s] of weather catastrophes around the world together with increased flooding and bushfires in Australia.'

(55+ age group)

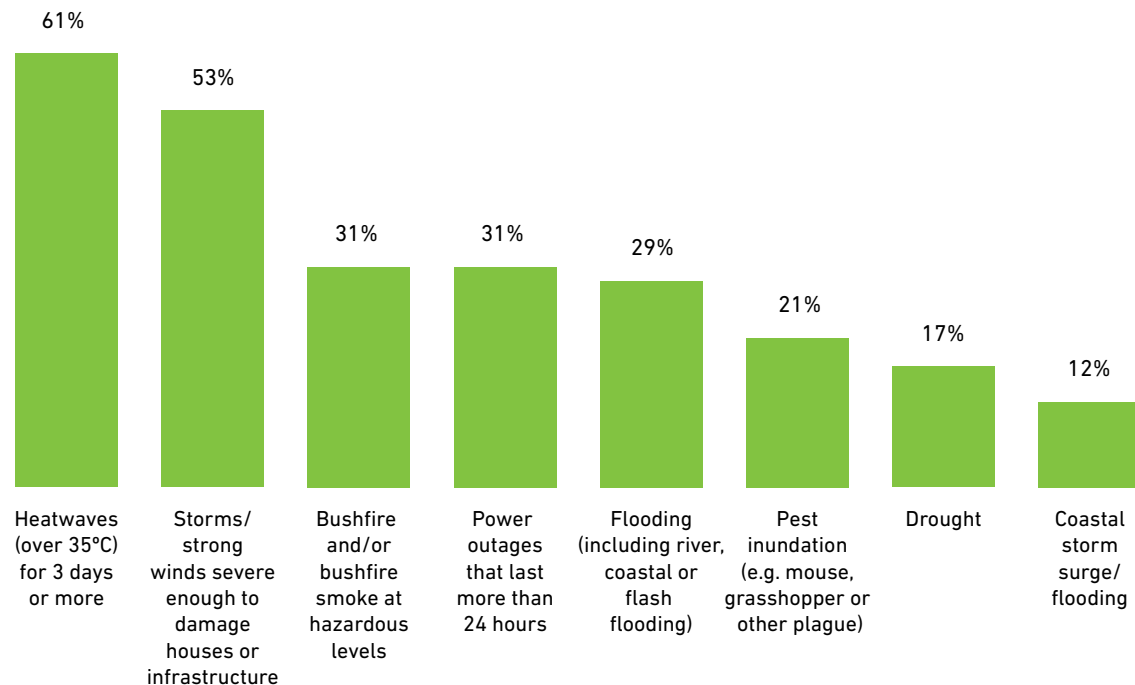
Younger people more likely to believe they will be harmed by climate change

Over half of Victorians (54%) believe that climate change will personally harm them moderately (35%) or a great deal (19%). The degree of perceived personal harm is strongly correlated to age. Younger cohorts are more likely to say they will be harmed a great deal. This is felt more by 16 to 24-year-olds (28%) than those aged 75+ (3%). Only 8% of the younger cohort think they won't be harmed at all, compared to 23% of those aged 55+ years.

Victorians' lived experience of climate change impacts

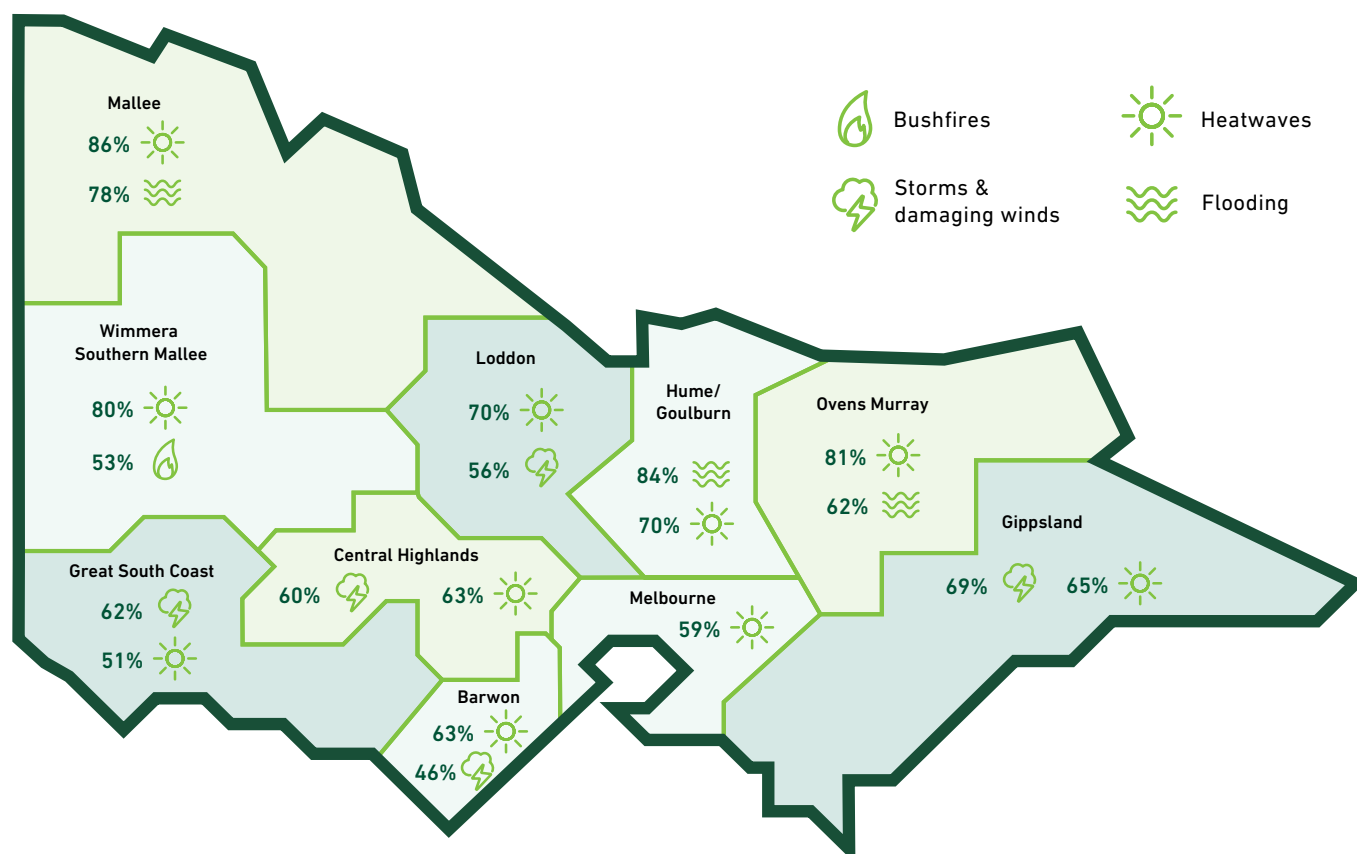
Most Victorians (83%) have experienced at least one extreme weather event in the past 5 years and almost half (47%) have experienced 3 or more.

Victorians experience of extreme weather events in the past 5 years



While heatwaves, bush fires and severe storms/damaging winds were the most common occurrences across the state, regions show some differences. River flooding is one of the most common occurrences in the Hume/Goulburn, Ovens Murray and the Mallee regions.

Extreme weather event experienced, across regions





The number of extreme weather events experienced by Victorians

Number of events experienced	% of Victorians
At least one	83
2+	66
3+	47
4+	30
5+	30

There is a correlation between the number of extreme weather events experienced and the level of concern about climate change: the more extreme weather events experienced, the higher the concern about climate change.

Among those who experienced four or more extreme weather events, 78% are concerned about climate change compared to 58% who experienced only one extreme event.

Impacts of extreme weather events on Victorians

As illustrated in the following graphic, of those who experience extreme weather events, many are negatively impacted in a variety of ways.

Short-term stress and mental health impacts are associated with all extreme weather-related events and is highest for power outages, with 41% reporting it as a consequence of their experience.

Property damage was reported by almost half (48%) of those who experienced storms and strong winds, and for around one-third of people who experienced flooding, pest inundation or coastal storm surge, (31 to 34%).

Impacts of extreme weather events on Victorians

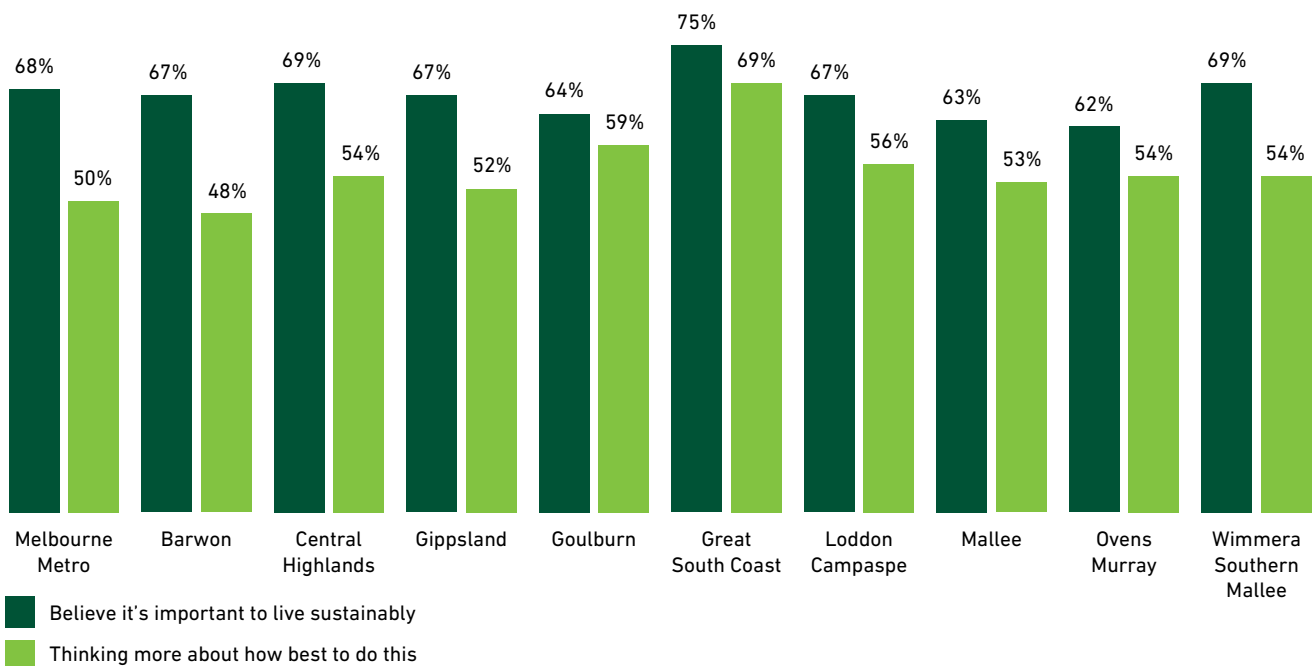
	Victorians who experienced extreme weather event	Top 3 impacts experienced by respondents		
Heatwaves 	61%	Short-term mental health 31%	Illness/physical harm – short term 21%	Long-term (6m+) mental health 6%
Storms & strong winds 	53%	Property damage 48%	Short-term mental health 24%	Loss of income 9%
Power outages (of 24 hours or more) 	31%	Short-term mental health 41%	Loss of income 15%	Property damage 13%
Bushfires & bushfire smoke 	31%	Short-term mental health 36%	Illness/physical harm – short term 22%	Property damage 14%
Flooding 	29%	Property damage 34%	Short-term mental health 30%	Loss of income 12%
Pest inundation 	21%	Property damage 33%	Short-term mental health 27%	Long-term (6m+) mental health 13%
Drought 	17%	Short-term mental health 25%	Property damage 12%	Loss of income 11%
Coastal storm surge 	12%	Property damage 31%	Short-term mental health 27%	Loss of income 16%



Sustainable living and the circular economy

Similar to 2023 results, the majority of Victorians (68%) believe that living sustainably is important, and just over half (51%) are thinking more about how best to do this. This sentiment is consistent across all demographic groups and regions, with the exception of the Great South Coast, which has a higher proportion of respondents saying they are thinking more about how to best to live sustainably (69% compared to 51% average).

Attitudes toward living sustainably, by region

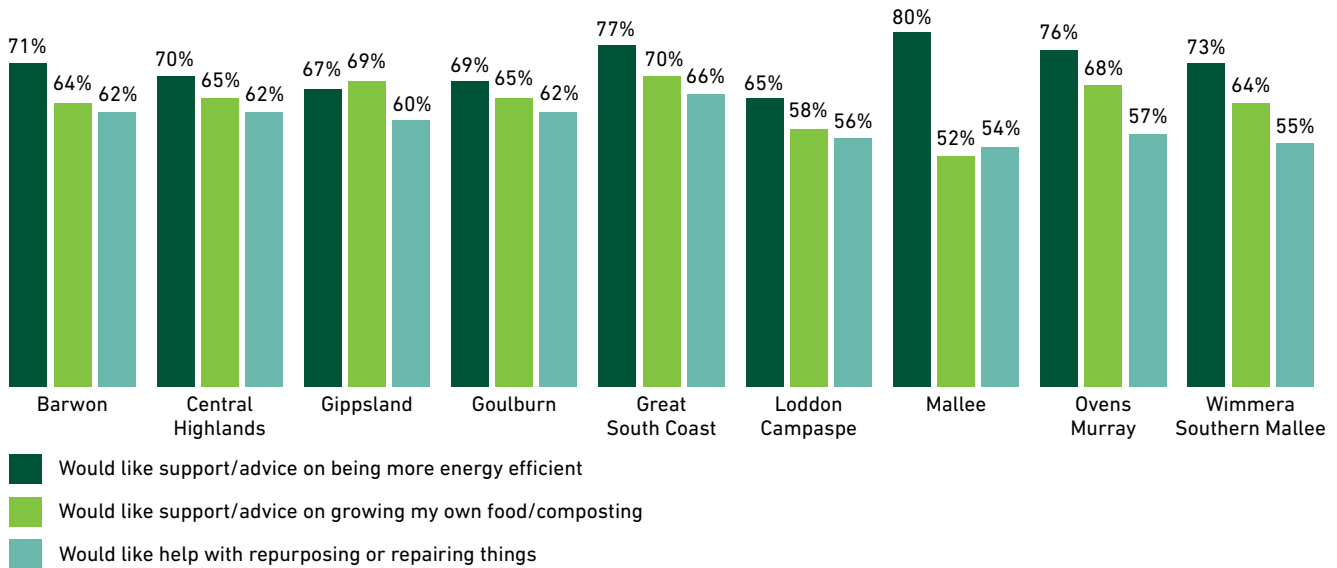


When Victorians were asked about the sustainability actions they'd like more support and advice on, a range of behaviours were selected. Many of these behaviours align with circular economy principles. Others relate to energy efficiency and emissions.

More Victorians want support and advice on:

- repairing and repurposing things (61%)
- growing their own food/composting (61%)
- improving knowledge on correct recycling (59%)
- being more energy efficient in the home (70%)
- reducing greenhouse gas emissions (55%).

Sustainability support and advice Victorians are interested in, by region



Circular behaviours – most Victorians use government-initiated recycling programs

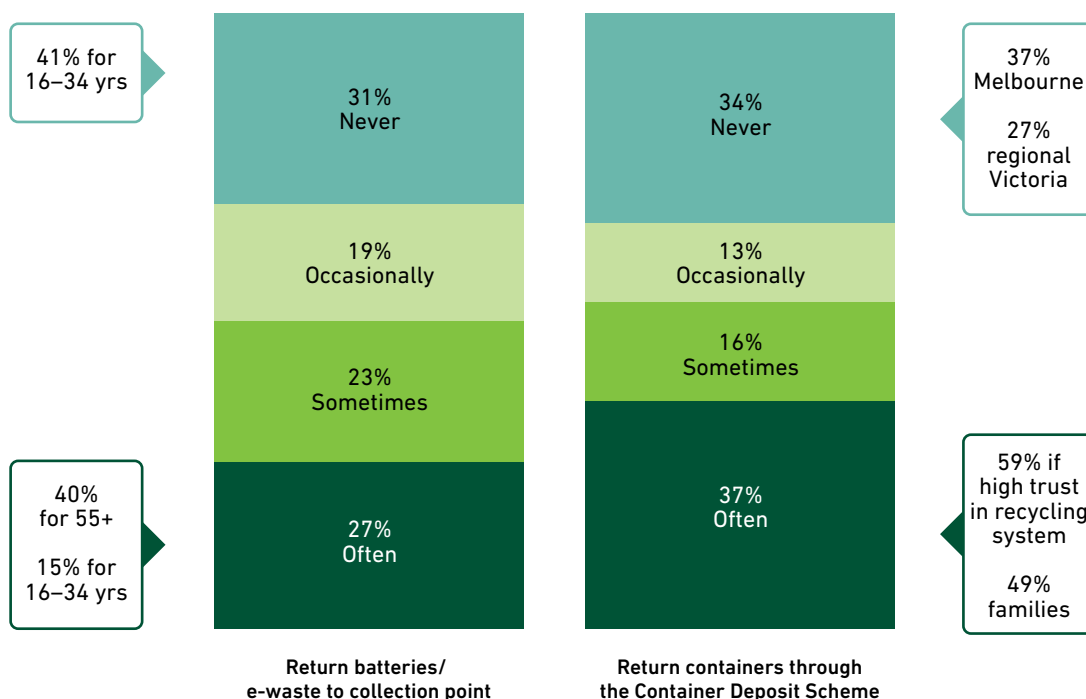
Most Victorians, to some extent, have engaged in the following recycling programs:

- 69% have taken e-waste or batteries to designated collection points, and
- 66% have returned plastic bottles through the Container Deposit Scheme in the past 12 months.

People over 55 are more likely to report taking batteries/e-waste to designated collection points (40% report doing it 'often' compared to the 27% average). The Container Deposit Scheme is more likely to be used by those living in regional Victoria (73% compared to 63% in Melbourne), and families with children aged 12+ years (49% use 'often').

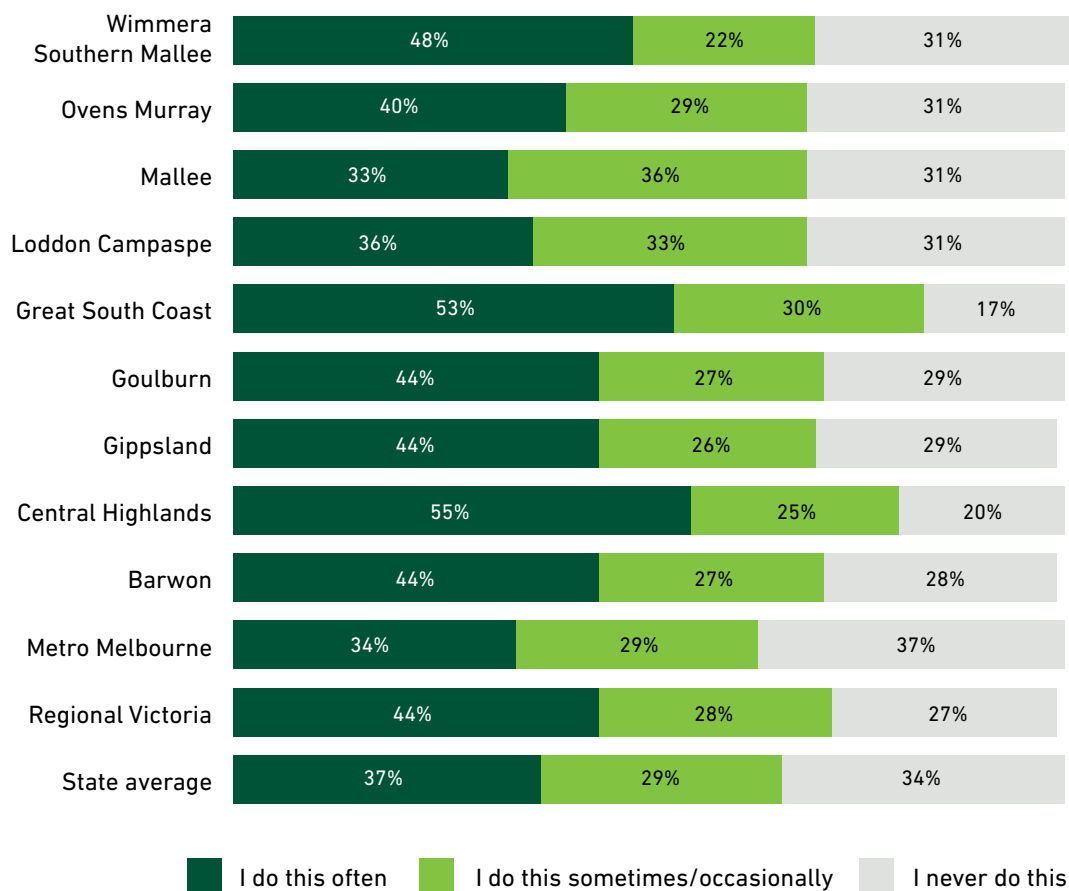
Those who trust the recycling system use the Container Deposit Scheme more (76% compared to 66% average). This correlation mirrors household recycling, but was not found with the use of e-waste/battery collection points.

How often Victorians use waste collection points for batteries and e-waste, and the Container Deposit Scheme



Use of the Container Deposit Scheme varies across regional areas. The Central Highlands and the Great South Coast have the highest usage, (55% and 53%, respectively, use it often).

Container Deposit Scheme use by region



Familiarity and understanding of the term 'circular economy'

A growing proportion of Victorians are familiar with the term 'circular economy' and understand to some degree what it means. This has increased from 26% in 2023 to 34% in 2024. This increase is statistically significant and suggests that the term is being used more across the community.

Those who have 'never heard' of the term (46% in 2023 decreasing to 38% in 2024) are more likely to be:

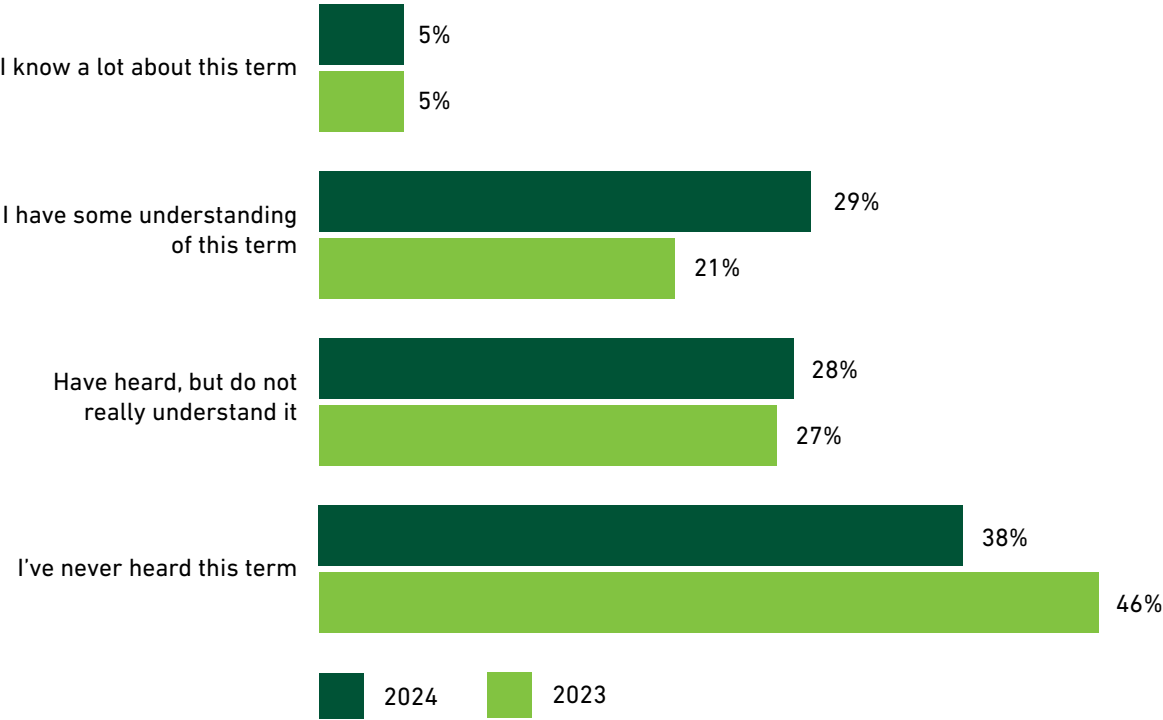
- females (47% compared to 29% males)
- those living in regional Victoria (46% compared to 36% in Melbourne)
- those with lower education levels (48% of those with no formal qualification compared to 23% of those with a post-graduate degree).

Of the 34% familiar with the term, only 5% say they 'understand it well' and 29% 'know a little'.

This highlights the importance of boosting the community's understanding of the concept, along with an opportunity to show the clear role it plays in reducing emissions and living sustainably.

Teaching the community about the circular economy should clearly describe the best ways for Victorians to get involved.

Understanding of the term 'circular economy'



Circular behaviours – buying and selling second-hand

Although community understanding of circular economy has increased, it is still not well understood by most Victorians.

Despite this, many Victorians are already participating in circular behaviours – with just over two-thirds (67%) reporting buying/selling second-hand clothes or other items in 2024. Physical stores and op-shops are used equally for buying and selling both clothing and other items. This differs for online platforms, which are reported to be used mostly for items other than clothes.

When the practice of donating second-hand items (rather than selling) is also included among behaviours, participation increases further to 87%.

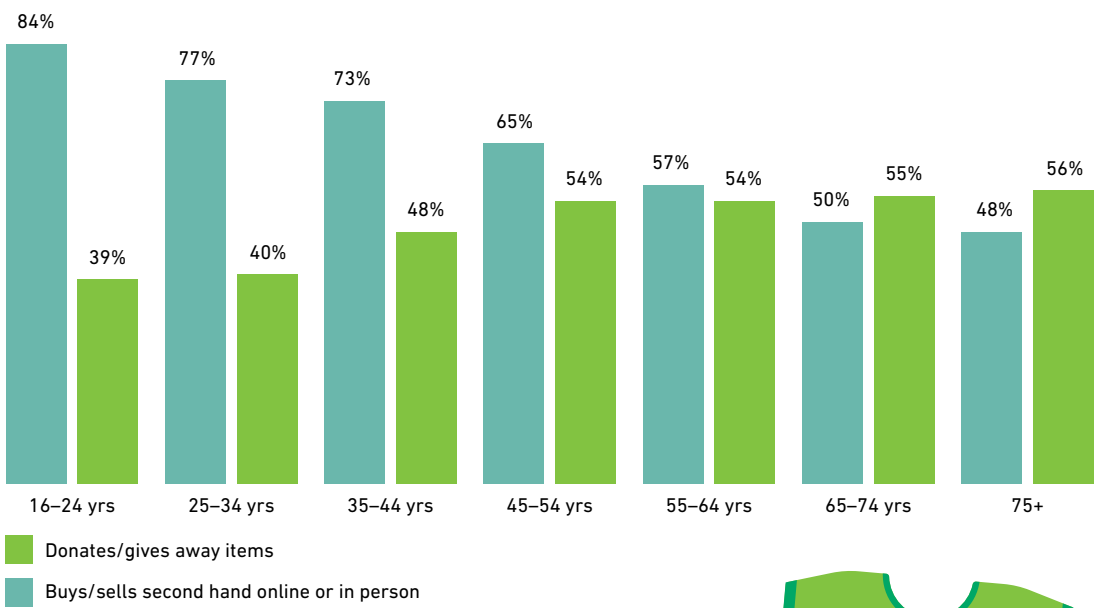
The proportion of Victorians who buy or sell second-hand items

Online	Physical store
31% clothes	42% clothes
48% other items	42% other items

Regional Victorians are more likely than those living in Melbourne to buy/sell/donate second-hand clothes and other items, both online (71% versus 65%) and from shop fronts (87% versus 79%).

Younger Victorians are more likely than older Victorians to buy/sell second-hand. However older Victorians are more likely than younger people to donate items.

Participation in buying, selling and donating second-hand items across age groups



Is buying second-hand the key to a more sustainable fashion industry?

Of those who bought second-hand clothes, 72% say that it reduced the amount of new clothes they subsequently bought.

According to the Australian Fashion Council's *Roadmap to clothing circularity*¹, Australians, on average, buy 56 new pieces of clothing per year.

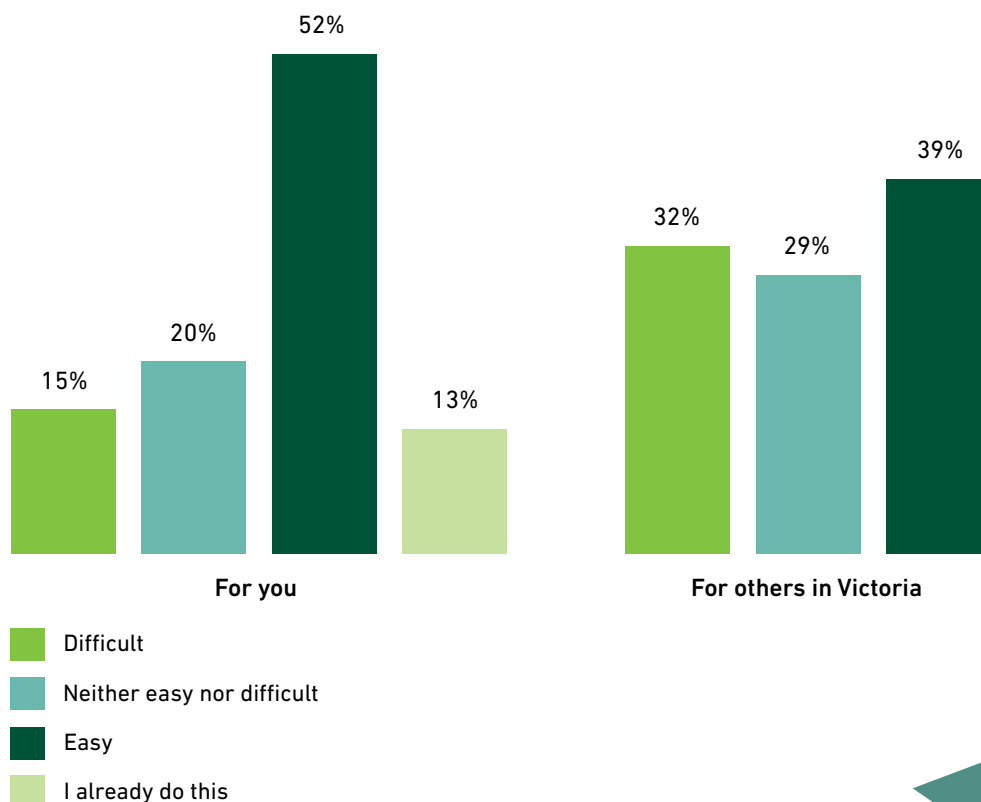
To help Victorians live more sustainably we explored how easy or difficult it might be for them to purchase only 20 new items of clothing each year. Just over half of Victorians (52%) said it would be 'easy' and 13% said they 'already do this'.

While only 16% of Victorians thought it would be difficult to buy fewer than 20 new items of clothing a year, this percentage doubled (32%) when they were asked how difficult it would be for the broader Victorian community to buy less than 20 items. There is a stronger sense that individually we could each do this, but there is less confidence that this could be achieved by the population as a whole.

There are also some differences across demographics in terms of perceived ease:

- Men are more likely than women to think it easy to buy fewer than 20 items (58% compared to 46%)
- Older people are more likely than younger people to think they could do it easily (59% of those over 55 compared to 44% of 16 to 34-year-olds).

How easy or difficult would it be to buy fewer than 20 items of clothing per year?



¹ Australian Fashion Council, *Roadmap to clothing circularity*, 2023.

Victorians are ready to buy circular products and support circular consumption models

Victorians are positive about circular consumption choices such as buying:

- quality products that can be serviced to last longer (80%)
- products that can be easily repaired (78%)
- from organisations that take back old products and reuse or recycle the materials (69%).

Furthermore, despite current cost of living pressures, almost half (47%) indicate they are willing to pay more for products that are easily repurposed or recycled at end of life. This 'willingness' indicates the strength of positive feeling and support for these types of products.

Attitudes towards circular consumption models

Circular purchasing behaviours	Victorians who agree	Differences across demographics
I would prefer to buy products that can be serviced/ repaired and stay in good working order for longer	80%	75% 16–34 yrs 80% 35–54 yrs 84% 55+ yrs
When I buy products, how long they will last, and how easy they are to repair, is important to me	78%	73% 16–34 yrs 78% 35–54 yrs 82% 55+ yrs
I would like to buy from organisations that take back their old products and reuse or recycle the materials	69%	61% 16–34 yrs 73% 35–54 yrs 73% 55+ yrs
I want to know about repair and repurposing	61%	No differences
I would pay more for a product that I knew was easily repurposed or recyclable at end of its life	47%	55% among those with higher education



Interestingly, although supported by a majority in each age group, there are slightly – but consistently – lower scores for these circular models and products among the 16 to 34 age group. This may be because they presume these options will be more expensive. However, without further research the reason for this difference is unclear.

Other circular behaviours

Victorians also participate in the following circular behaviours:

- 26% buy refurbished/repared electronic devices rather than new (increasing to 34% for 16 to 34-year-olds).
- 29% use a repair cafe/repair service (no differences across sub-groups).
- 15% buy from a company that runs a stewardship/product take-back program (21% in 16 to 34-year-olds).
- 8% borrow, lease or hire items rather than buying (includes tool libraries, toy libraries, hiring of other baby items, car share schemes).

The figures above are similar to baselines collected in 2023.

These results are unsurprising because Victoria is at the start of its circular economy journey. Currently there are limited opportunities to do these things and visibility of circular consumption models is low. For instance, only 47% of Victorians are aware of companies that offer take-back or stewardship programs.

Similarly, there are not yet any social norms around these types of behaviours because our economy remains dominated by linear models of production and consumption. Ideally, as the economy and businesses transition to a more circular economy we will record higher levels of these behaviours.

Resources and environmental impacts are not top of mind when buying

When buying new products, resources and environmental impacts are not top of mind. More Victorians think about the environmental impacts at the point of disposal/when throwing away old items (55%) rather than when they are buying them (30%).

Attitudes towards environmental impacts

Attitudes	Agree
I think about what happens to the environment when I throw out old items/ products	55%
When buying new products, I think about the resources that were used to make it	30%

It will be important to find ways for Victorians to consider the environmental impacts of an item at the time of purchase or acquisition.



Housing and energy use

Our homes account for over one-fifth of Victoria's annual greenhouse gas emissions.²

A home's thermal quality, as well as the energy efficiency of its key appliances, and the type of energy used, can all make a significant difference to our level of sustainable living.

Homes with poor thermal quality and energy performance impact both the individuals living in them, the environment and the wider economy.

Thermal quality of housing

We gathered data about the various features in people's homes that support better thermal performance. This included insulation, draught proofing measures, thick curtains or window covers, and double glazing. This information was then used to classify each home along a scale of thermal quality, ranging from 'good' to 'extremely poor'.

60% of Victorians live in homes with 'good' or 'moderate' thermal quality, and 40% live in homes classified as 'poor/very poor/extremely poor'. These homes have zero, one or two thermal features only.

Overall, the thermal quality of Victorian homes remains largely unchanged from 2023.

An example of the thermal features a home might have, and how it is classified on our thermal quality scale, is shown in the table below.

Thermal scale	Insulation			Other features		Victorians' homes
	Roof	Floor	Walls	Double glazing or other window covers	Draught proofing	
Good	✓	✓	✓	✓	✓	60%
Moderate	✓			✓	✓	
Poor			✓		✓	40%
Very poor				✓		
Extremely poor						

Preparing the house for hot weather

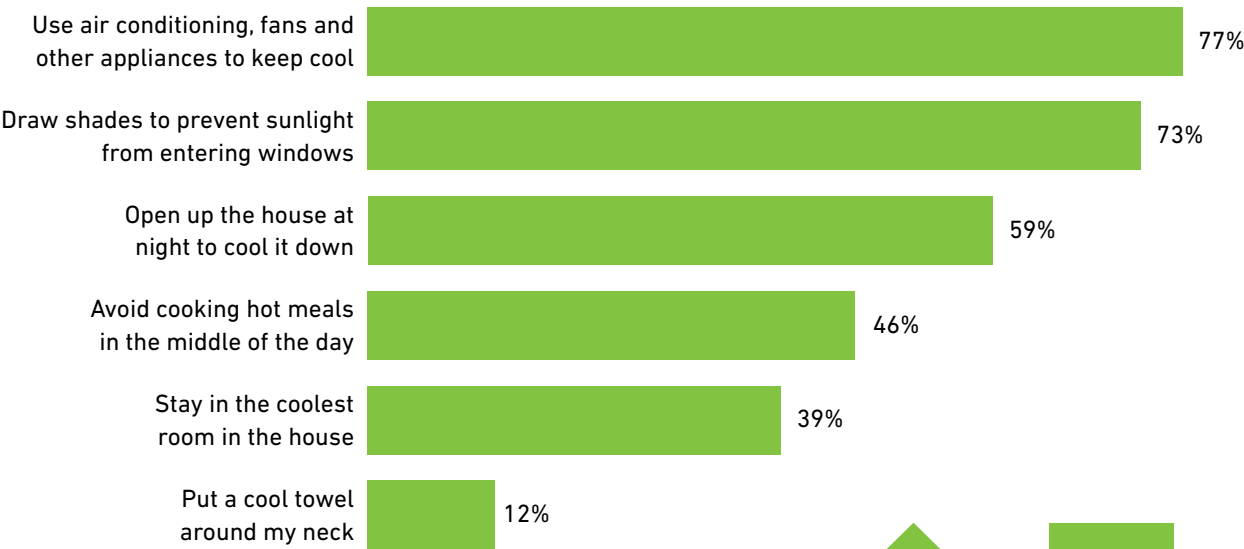
Australia is experiencing more hot days and is expected to continue to do so in the coming decades.

The Bureau of Meteorology’s 2024 State of the Climate states: ‘8 of the 9 warmest years on record (in Australia) have occurred since 2013. Warming is observed across Australia in all months with both day- and night-time temperatures increasing. This shift is accompanied by an increased number of extreme heat events across all months, including a greater frequency of very hot days in summer.’³

Given the changing climate, we asked Victorians how they currently prepare for hot weather (chart below).

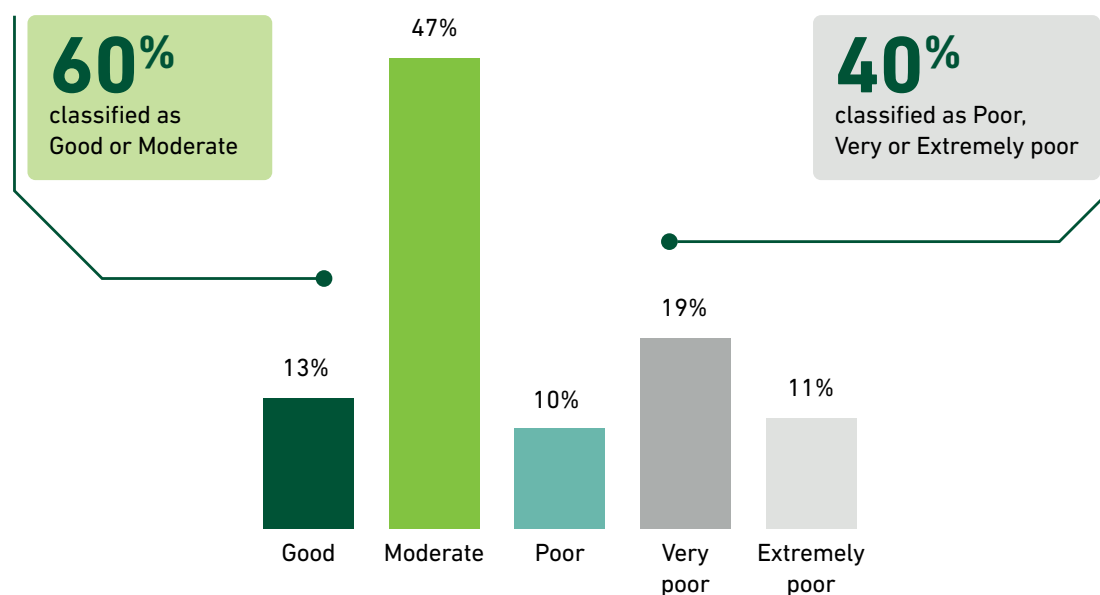
The use of energy-dependent appliances such as air conditioners and fans were the most common approach to keeping cool (77%), followed by shading of windows (73%), and cooling the house down at night (59%). Behavioural changes such as not cooking in the middle of the day, staying in a cool room, and using a wet towel around the neck were also common.

What are all the ways you prepare yourself, and your home, for hot weather?



3 Australian Government Bureau of Meteorology, *State of the Climate*, 2024.

Spread of Victorians' home across the thermal quality scale



Those in homes with poor thermal quality reported greater thermal discomfort

Those living in homes with poorer thermal quality were more likely to report thermal discomfort on hot and cold days and were more likely to have to leave their home at some point because it was too hot or too cold to stay (27% compared to 18% average).

Over the past couple of years, on average:

- 45% say their home has been too cold during winter
- 43% say their home gets too hot during summer, and
- 17% had to leave their home for a short while because it was too uncomfortable to stay.

Most left their home because it was too hot.

The places people go when they leave their homes include:

- Shopping mall (46%)
- Friends/family's place (36%)
- The pool (20%)
- Cinema (15%) or library (15%)
- Community venue (4%)
- Somewhere else (13%)

Renters face higher thermal discomfort due to houses with lower thermal quality

Renters are significantly more likely to live in homes with poorer thermal quality (64% compared to 30% of home owners) and are more likely to report thermal discomfort in summer and winter. Renters are also more than twice as likely on very hot or cold days, to have to leave their home temporarily due to thermal discomfort (28% of renters, compared to 11% of home owners).

	Home owners	Renters
 Home was too hot	37%	57%
 Home was too cold	35%	56%
 Had to leave home a while	11%	28%



Energy efficiency of key appliances in the home

We collected data about the energy efficiency of main appliances, such as heaters, hot water systems, and cooktops and ovens. This information was then used to classify homes on an energy-efficiency scale ranging from 'optimum' to 'low'.

Heating and hot water systems are of particular interest because together these appliances account for 60% of the home's energy costs (excluding supply charges).⁴

Two main systems use most of the home's energy: heating and hot water

60%

of average annual energy costs⁴

Heating

43% of average annual energy costs⁴

Hot water system

17% of average annual energy costs⁴

Poor energy performance impacts:

-  Our health (less healthy to live in)
-  Energy costs to heat and cool
-  The energy grid
-  The wider economy



The spread of energy-efficient homes across Victoria

Energy-efficiency scale	Description	%
Optimum	All key appliances are energy efficient across heating, hot water and cooking	12
Good	Two key appliances are energy efficient Heating and hot water are both energy efficient	16
Moderate	Has only one energy-efficient key appliance Heating or hot water	37
Low	Heating and hot water are not energy efficient, only cooking appliance is energy efficient.	4
	No appliance is energy efficient – not heating, hot water, nor cooking	31

72%

of homes could be significantly more energy efficient

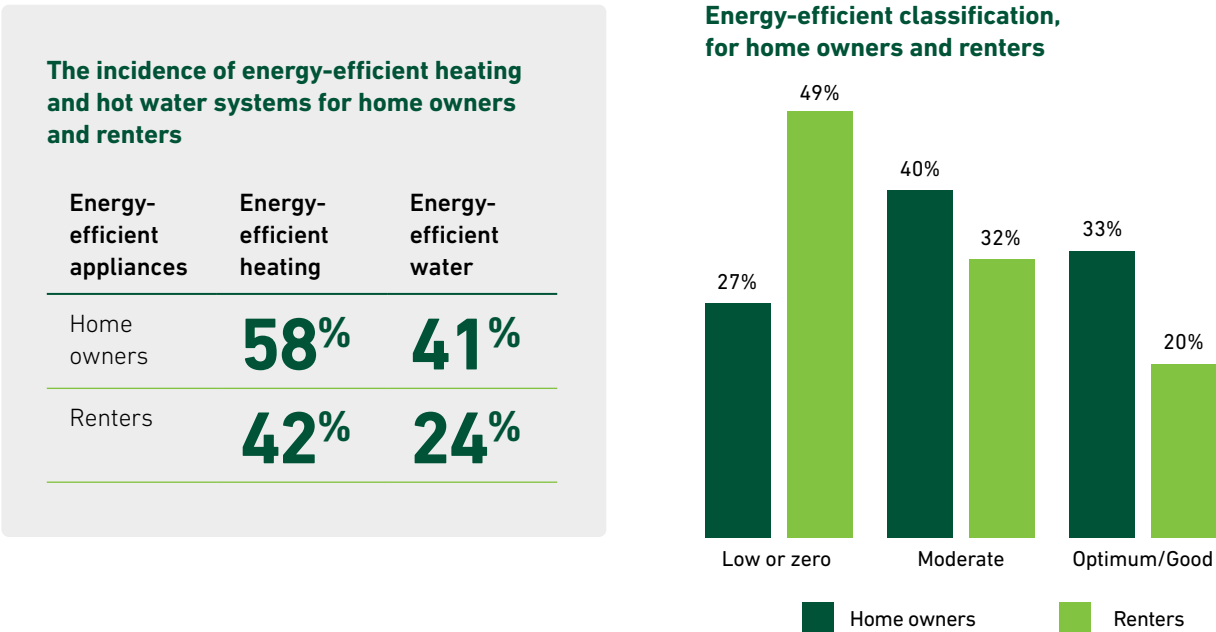
4 Sustainability Victoria, *Tracking Victoria's energy transition*, 2022.

Only 28% of homes have both heating and hot water classified as energy efficient. There is an opportunity to boost household energy efficiency significantly across Victoria, as approximately three-quarters of homes (72%) could make changes.

Similar to the 2023 findings, only 4% of homes in Victoria meet the criteria for Grattan Institute's basic energy-efficient all-electric home, which includes an induction cooktop, reverse cycle air conditioner, and hot water heat pump.

Renters have lower household energy efficiency than home owners

Like the results for thermal quality, renters are again more likely to live in homes with low-energy-efficient appliances. Over half of home owners have energy-efficient heating (58%) compared to 42% of renters. Similarly, 41% of home owners report energy-efficient hot water systems compared to 24% of renters.



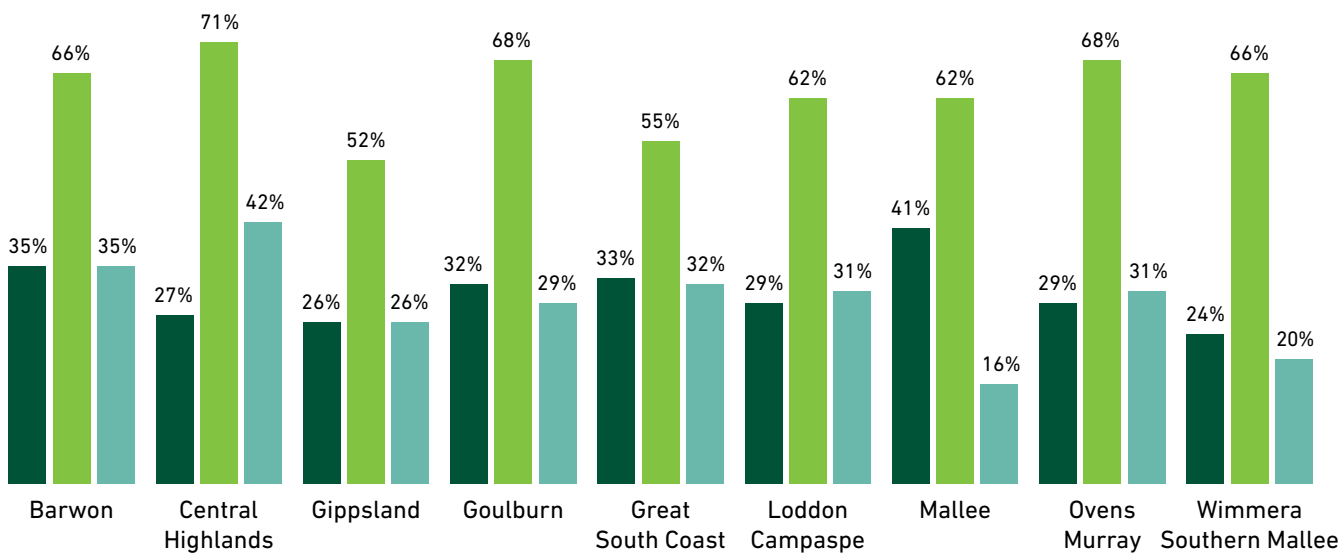
On the energy efficiency scale, 49% of renters' homes were classified as low/no energy efficiency, compared to 27% of home owners. Only 20% of renters were in homes with good/optimum energy efficiency, compared to one-third of home owners (33%).

Heating is of particular concern in this cost of living crisis because heating appliances alone account for 43% of an average home's energy cost (excluding supply charges).

Improvement is needed in our homes

The summary chart below shows the extent of improvement needed in our homes in relation to all key measures: thermal shell, energy efficiency of main appliances and gas appliances. Energy efficient appliances have some variation across the state, but in every region, substantial energy efficiency improvements could be made in more than 50% of homes.

Percentage of poor thermal quality, moderate- or low-energy efficiency and high gas usage in homes, by region



Areas for improvement

- Extremely poor thermal shell/very poor thermal shell/poor thermal shell
- Moderate- to low-energy-efficient appliances – only one main appliance (heating or hot water) is energy efficient
- All or mostly gas appliances

Gas and electricity use

Victoria has the highest gas usage in Australia — 88% of respondents report that they use gas and most have more than one gas appliance in use.

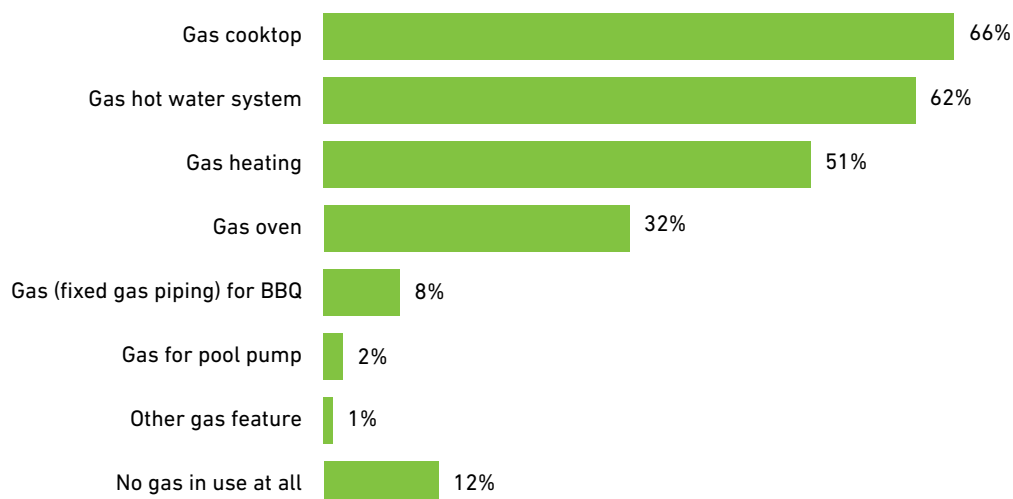
The survey asked respondents to report whether key appliances – including heating, hot water, cooktop and oven – were fuelled by gas or electricity. This information was then used to classify homes on a gas appliance scale ranging from 'all gas' to 'no gas in use'.

The spread of respondents' homes on the scale is similar to that in 2023.

Category	Description	% of homes
All gas	All gas appliances - Gas heating - Gas hot water - Gas cooktop - Gas oven	13
Mostly gas	Heating and hot water is gas	27
Partly gas	Heating or hot water is gas	34
Low-level gas	Only cooking is gas	13
No gas in use	No gas appliances	12

40%
of homes have
'all' or 'mostly'
gas appliances.

The prevalence of each gas appliance



Gas appliance use is higher in Melbourne than in regional Victoria. Those aged over 55 have a higher incidence of gas heating and gas hot water systems.

Prevalence of gas appliances across age groups and location

Appliance	16–34 yrs	35–54 yrs	55+ yrs	Metro Melbourne	Regional Victoria
Gas cooktop	64%	68%	67%	69% ▲	58% ▼
Gas oven	37% ▲	33%	26% ▼	33% ▲	28% ▼
Gas heating	41% ▼	51%	60% ▲	54% ▲	42% ▼
Gas hot water system	54% ▼	64%	68% ▲	65% ▲	53% ▼
No gas in use at all	12%	11%	13%	9% ▼	22% ▲
Any gas appliance	88%	89%	87%	91% ▲	78% ▼

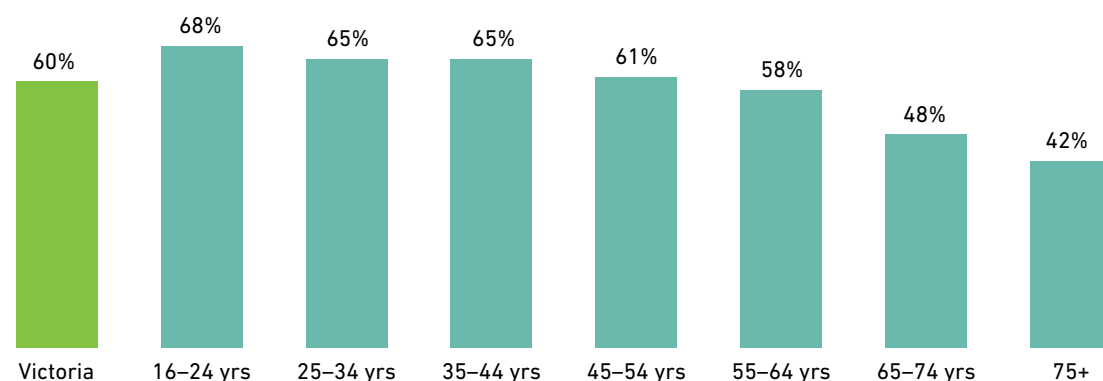
▲ ▼ indicate a statistically significant difference within demographic group.

Willingness to switch from gas to electric

Achieving Victoria's emission reduction targets requires moving from gas to renewable electricity. 60% of Victorians agree it is important to move away from fossil fuels like gas.

The belief that it's important to move away from fossil fuels correlated with age – as age increased, belief in the importance of moving away from gas decreased. While younger people support transitioning from gas, they are more likely to be renters and face more barriers to switch.

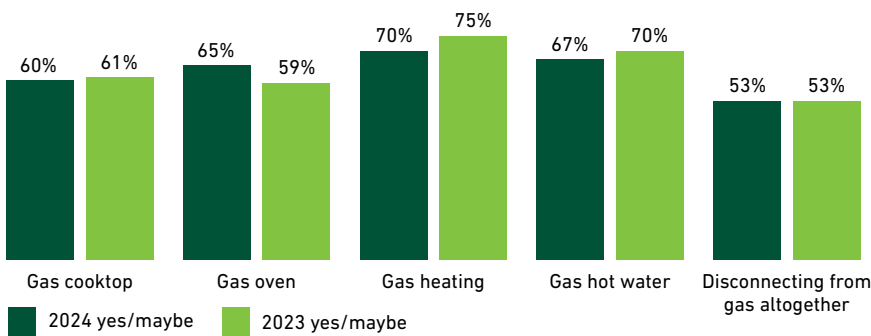
Belief in the importance of households moving away from fossil fuels like gas, by age



A majority of Victorians would consider switching from gas, including 60% for gas cooktops

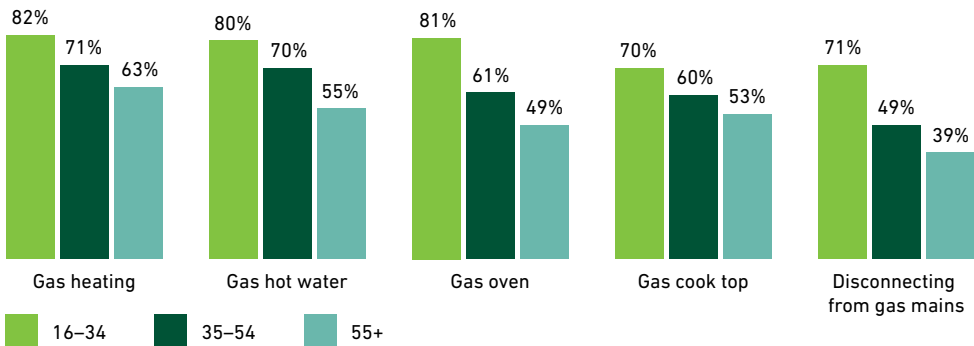
Most respondents (95%) indicate that they are willing to consider **switching at least one** of their appliances from gas to electric. However, only half (53%) say 'yes/maybe' to **disconnecting completely** from gas, and 47% say 'no'. As shown in the chart below, the figures are similar to 2023, with no change in the percentage willing to disconnect completely from gas.

Percentage willing to consider switching appliances from gas to electric



Willingness to switch is higher among younger age groups and lower among those over 55 years, (71% of those aged 16 to 34 would consider disconnecting completely, compared to 39% of the 55+ age group). However, it is the 55+ age group that is living in homes with more gas appliances (49% are in home classified as 'all or mostly gas' compared to 30% of 16 to 34 year olds).

Willingness to consider switching appliance from gas to electric, by age



Scale of gas appliances in home, by age

	All or mostly gas (heating and hot water is gas with/ without gas cooking)	Partly gas (heating or hot water is gas with/without gas cooking)	Low or no gas (only cooking or no appliance is gas)
16-34 years	30%	37%	33%
35-54 years	40%	35%	25%
55+ years	49%	31%	20%

49%

of people aged 55+ years have all or mostly gas appliances

As well as age, differences in willingness to switch from gas to electric appliances were also found across the following demographics:

- Those who speak a language other than English at home (LOTE) had higher proportions willing to switch from gas to electric oven (83% compared to 63% English language only).
- Respondents with higher education levels (degree/post-graduate) were more willing to switch from gas to electric, across all appliances. This group was consistently 8 to 9 percentage points above average scores.
- When looking across level of income, respondents on higher incomes (\$120,000 or more) were more willing to switch from gas, across all appliances, compared to those on lower incomes (below \$60,000). Differences between the two groups ranged from 10 to 20 percentage points across appliances, with gas oven the appliance with the biggest difference (77% of people on higher incomes were willing to switch compared to 55% among those on lower incomes). This finding, however, is likely conflated with age and education.

Barriers to switching from gas

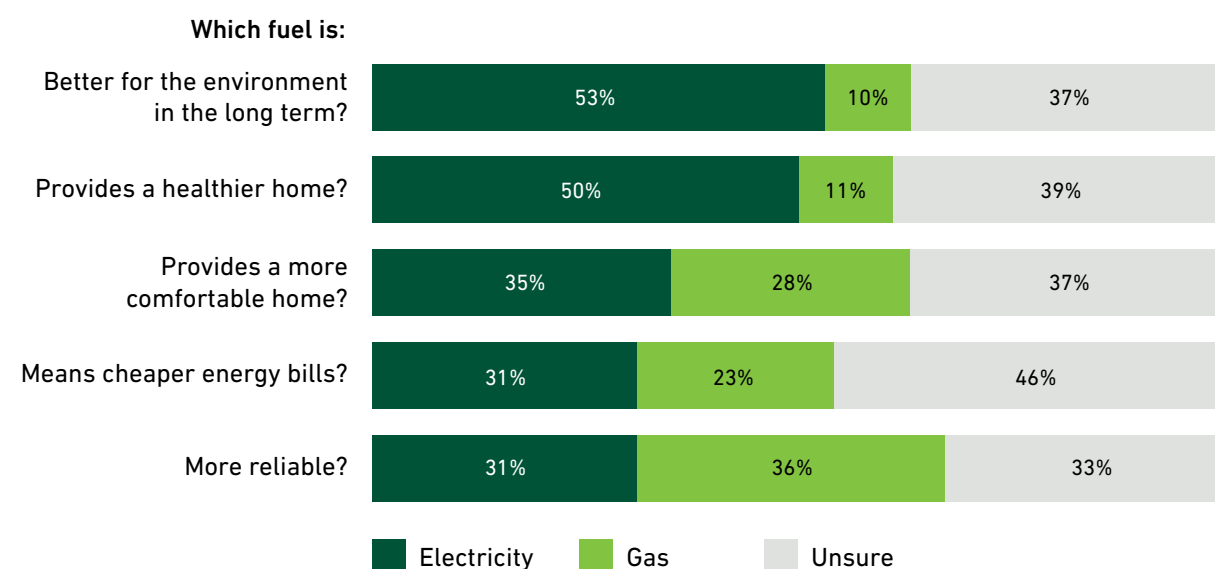
The perceived barriers to switching from gas to renewable electricity as described by survey respondents:

- 'Gas is cheaper.'
- 'Gas is more reliable.'
- 'Too expensive to upgrade.'
- 'Prefer cooking with gas.'
- 'Feel secure having both.'
- 'No choice – I'm renting.'
- 'More efficient – heats up the home faster.'

Victorians unsure about the benefits of electricity compared to gas

Only a slight majority of Victorians (53%) believe that electricity is better than gas for the environment in the long term, and just on half (50%) think it provides a healthier home. More Victorians think gas is more reliable (36% compared to 31% for electricity and 33% didn't know). When asked which was cheaper, the most common response was 'don't know/unsure' (46%).

Beliefs about gas versus electricity



Awareness that switching from gas to electricity will help tackle climate change is relatively low

Almost half of Victorians (48%) are aware of the link between switching from gas to electric and tackling climate change.

One in five (20%) are not aware of this link, and the remaining one-third (32%) don't think there is a need to go all-electric.

There is a difference in attitudes across groups:

- More 16 to 34 year olds understand the link between all-electric and tackling climate change (57% compared to 48% average).
- A higher proportion of those 55+ believe there is no need to go all electric (43% compared to 21% for 16 to 34 years).

Replacing hot water and heating

Over the past two years:

- 14% of Victorians replaced their **hot water system**
- 8% of Victorians replaced their **heating**
- 7% of Victorians replaced **both** systems.

Replacing gas hot water

Of the 106 people who replaced their gas hot water system:

- 25% changed to electric
- 67% replaced like for like and kept gas

Replacing gas heating

Of the 69 people who replaced their gas heater:

- 52% changed to electric
- 46% replaced like for like and kept gas

Replacing electric hot water

Of those 64 people who replaced electric hot water:

- 84% kept electric
- 9% went to gas
- 7% went to something else

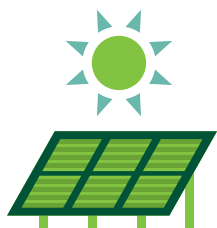
Replacing electric heating

Of the 29 people who replaced electric heating:

- 70% kept electric
- 23% went to gas
- 7% went to something else

Although the sample sizes are small, findings indicate that Victorians are sticking more to their gas hot water systems (67% kept gas) than to their gas heating (46% kept gas).





Renewable energy

More than a third of Victorians use renewable energy

Similar to 2023, 35% of Victorians use renewable energy: 29% have solar panels (no significant change from 2023, 31%) and an additional 6% buy renewable energy from their retailer. In total, 14% said they bought green power or renewable energy from their retail provider, of these 8% had solar panels and 6% didn't.

Victorians most likely to have solar



Over 55 years
34%



Homeowners
39%



Those in regions
37%



29% of Victorians have solar panels



Of those with solar panels, 7% have a battery as well.

Of those who do not have solar panels, 1 in 10 (9%) intend to get them in the next couple of years, while almost one-third (32%) say they have no intention of ever getting them.

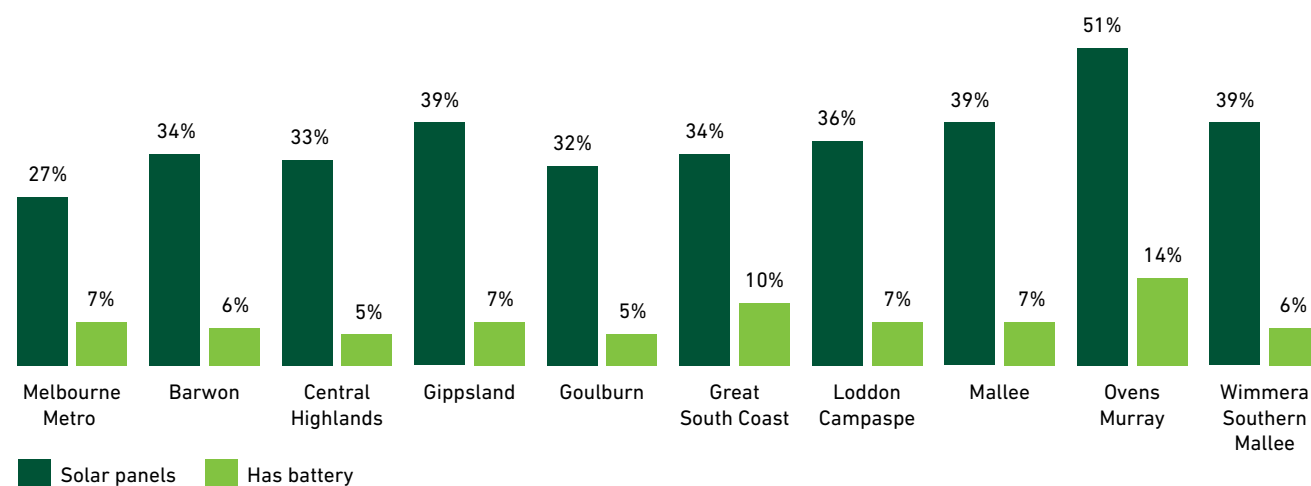
Solar panels are more prevalent:

- in stand-alone houses (35%) compared to apartments (12%) and townhouses (20%)
- among home owners (39%) compared to renters (10%)
- in regional Victoria (37%) compared to in Melbourne (27%).

Across regions, solar panel uptake is significantly higher in the Ovens Murray region (51%).

This region also has double the average uptake of battery storage (14% compared to 7% average).

Take-up of solar panels and battery storage, by region



Support for renewable energy infrastructure

Most Victorians support renewable energy infrastructure in their local area:

- Solar farms – 65%
- Wind turbines – 59%
- Off-shore wind turbines – 66%
- New transmission lines – 60%
- Neighbourhood batteries and rooftop solar – 68%
- Large batteries – 62%.

Compared to 2023, overall state support has declined slightly for solar farms (from 69% to 65%) and new transmission lines (64% to 60%).

For most forms of infrastructure, support is significantly higher among younger people and lower among those aged 55+. Support is also higher in Melbourne compared to Victoria's regional, and higher among men compared to women.

Support for renewable energy infrastructure, across demographic sub-groups

	State	Men	Women	16–34 yrs	35–54 yrs	55+	Melbourne	Region
Neighbourhood batteries and rooftop solar	68%	71%	65%	71%	69%	65%	69%	67%
Wind turbines/ off-shore in the ocean	66%	70%	61%	73%	64%	60%	67%	61%
Solar farm in my local area	65%	66%	63%	75%	65%	56%	66%	63%
Large battery/batteries	62%	67%	57%	66%	63%	57%	64%	56%
New energy transmission lines	60%	65%	56%	69%	61%	51%	61%	56%
Wind turbines in my local area	59%	62%	56%	70%	58%	50%	59%	59%

indicate a statistically significant difference within demographic group.

(The sample sizes for each sub-group in the above chart ranged from 814 to 1,555.)

While the majority of Victorians across all regions support renewable energy infrastructure in their local area, three geographic regions showed modest differences.

As shown in the chart below:

- Gippsland is less supportive of solar farms than other regions
- Great South Coast is less supportive of off-shore wind turbines, and
- Ovens Murray is less supportive of large batteries for energy storage. (As shown in 'Take-up of solar panels and battery storage, by region', residents here have the highest uptake of rooftop solar and household individual battery storage systems.)

Support for renewable energy infrastructure, across regions

Infrastructure type	Barwon	Central Highlands	Gippsland	Goulburn	Great South Coast	Loddon Campaspe	Mallee	Ovens Murray	Wimmera Southern Mallee
Neighbourhood batteries/rooftop solar	68%	70%	61%	67%	69%	66%	75%	67%	71%
Off-shore wind turbines	69%	68%	60%	63%	46%	58%	54%	58%	58%
Solar farms	66%	68%	54%	67%	58%	66%	70%	56%	64%
Large battery/batteries	62%	60%	54%	57%	57%	61%	56%	47%	54%
New energy transmission lines	60%	56%	51%	62%	56%	53%	62%	52%	53%
Wind turbines in my local area	62%	64%	56%	60%	55%	58%	63%	55%	56%

indicate a statistically significant lower score compared to other regions.

(Note: the sample sizes of each region varies, ranging from 68 respondents in Wimmera Southern Mallee to 271 in Gippsland.)

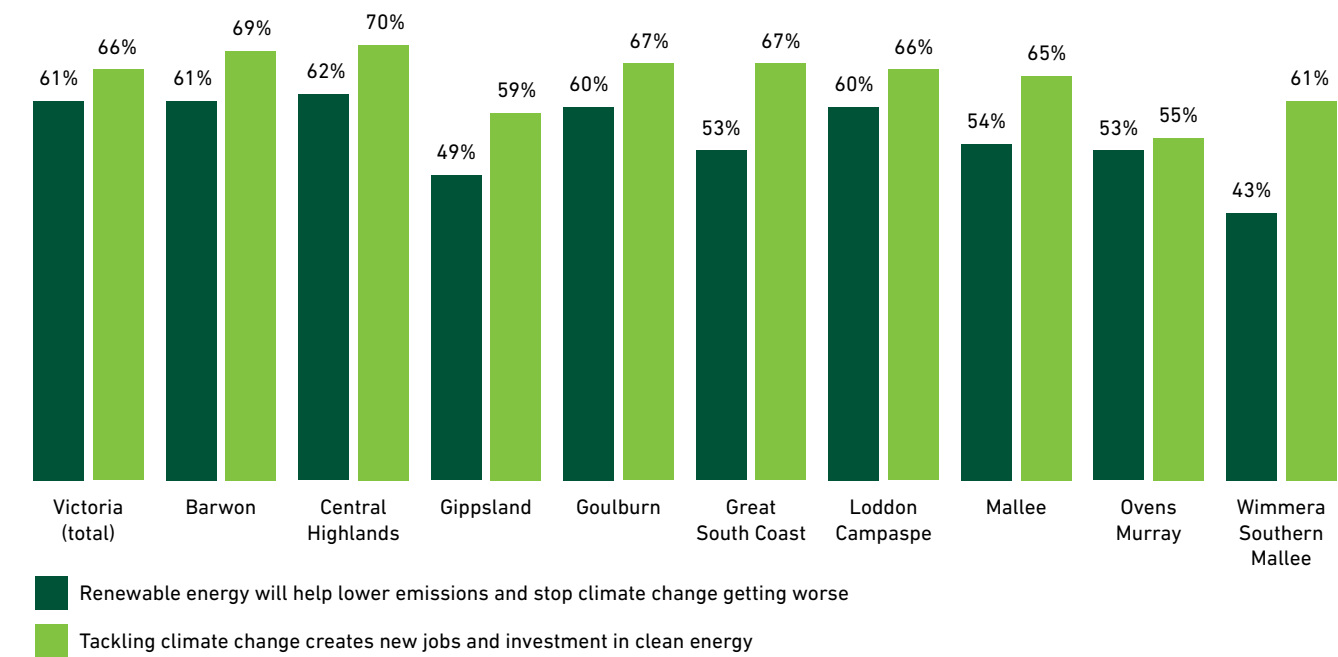
Beliefs about renewable energy

Most Victorians believe renewable energy will create jobs and help address climate change:

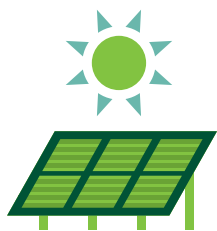
- 66% believe tackling climate change in Victoria creates new jobs and investment in 'clean energy'.
- 64% believe climate change requires urgent action now.

As shown in the chart below, the majority of respondents across all regions believe that the move to renewable energy brings jobs and investment to Victoria. Most also believe that the transition to renewable energy will help stop climate change getting worse (with the exception of those in Gippsland and Wimmera Southern Mallee).

The percentage of Victorians who believe moving to renewable energy will create new jobs/ investment and help tackle climate change, by region



The research indicates there is an opportunity to demonstrate the benefits of a renewable energy transition to Victorians, and educate the community on why it is a critical part of addressing climate change for our state. Community engagement is an important part of this transition to ensure continuing support for renewable energy and its infrastructure.



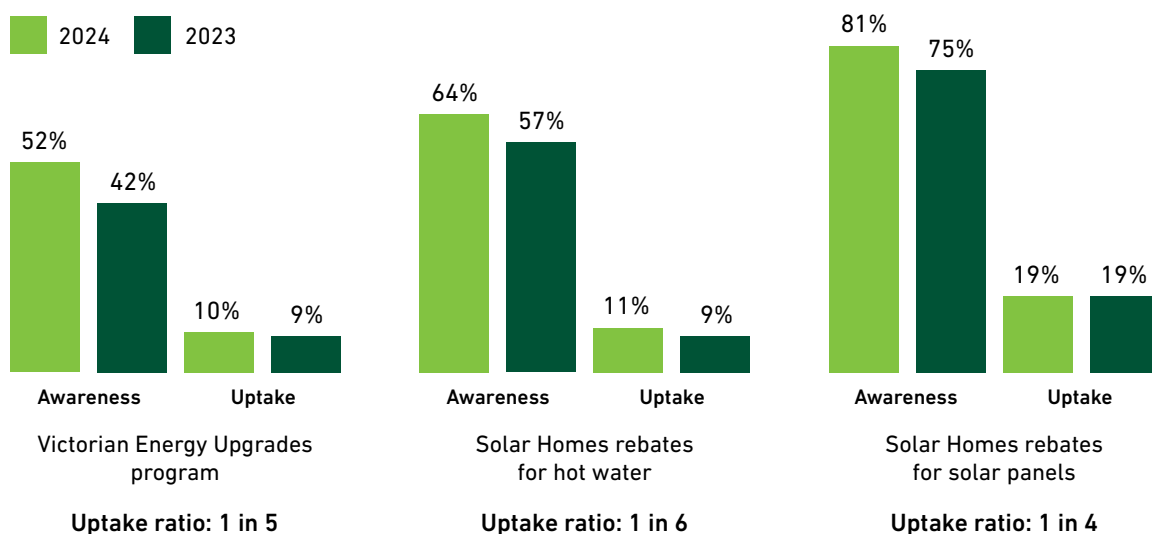
Awareness of government energy programs

Awareness and uptake of key Victorian energy programs was measured, including:

- the Victorian Energy Upgrades
- Solar Homes rebates for hot water
- Solar Homes rebates for solar panels.

Over the past year, awareness of all programs has increased, but uptake across all programs has remained stable.

Awareness and uptake of Victorian energy programs



The Solar Homes solar panel rebate program has the highest awareness/uptake ratio at 4:1 (for every 4 people aware, 1 person took it up).

Awareness and uptake of the solar panel rebate is higher among:

- home owners/own mortgage (awareness 87% and uptake 25% compared to 7% uptake for renters)
- those living in the regions (88% awareness and 23% uptake compared to Melb 80% awareness and 18% uptake)
- men (84% awareness and 22% uptake compared to women, 78% awareness and 16% uptake).

Awareness and uptake of the Victorian Energy Upgrades program and solar hot water rebates is also higher for home owners:

- Solar hot water: 69% awareness and 14% uptake among home owners, compared to 59% awareness among renters and 5% uptake
- Victorian Energy Upgrades: 57% awareness and 13% uptake among home owners, compared to 46% awareness among renters and 7% uptake.

Awareness and uptake of the government energy programs varies across the regions:

- The Victorian Energy Upgrades program has the highest 'awareness/uptake' ratio in Wimmera Southern Mallee, at 3:1 (for every 3 people who are aware of the program, 1 takes it up).
- Wimmera Southern Mallee also has the highest 'awareness/uptake' ratio for the solar panel rebate.
- Ovens Murray has the highest 'awareness/uptake' ratio for solar hot water rebates at 3:1.

Appliances replaced under the Victorian Energy Upgrades

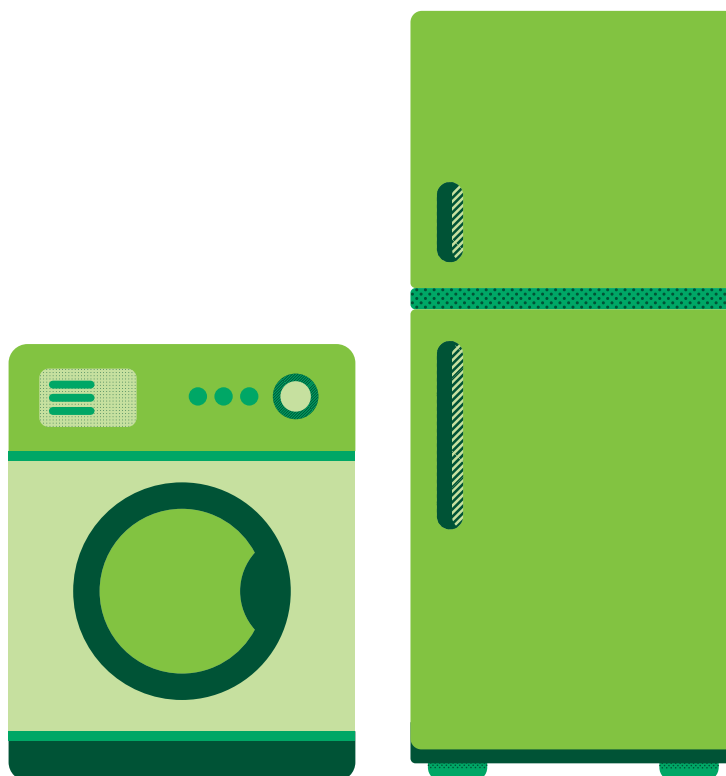
A portion of those who had participated in the Victorian Energy Upgrades program were asked about the types of appliances they replaced. Water heaters and heaters are the most commonly replaced appliances.

Appliances replaced under Victorian Energy Upgrades

Water heater	34%
Heater	21%
Clothes dryer	11%
Refrigerator or freezer	17%
Something else	21%
Can't recall	15%

Ease of use of Victorian Energy Upgrades

Overall, 50% of the program's participants say it was easy to use, and only 12% say it was difficult. The remaining 37% say it was neither easy nor difficult.





Expectations of government

The top 3 ways respondents believe the state government could help Victorians live more sustainably are:

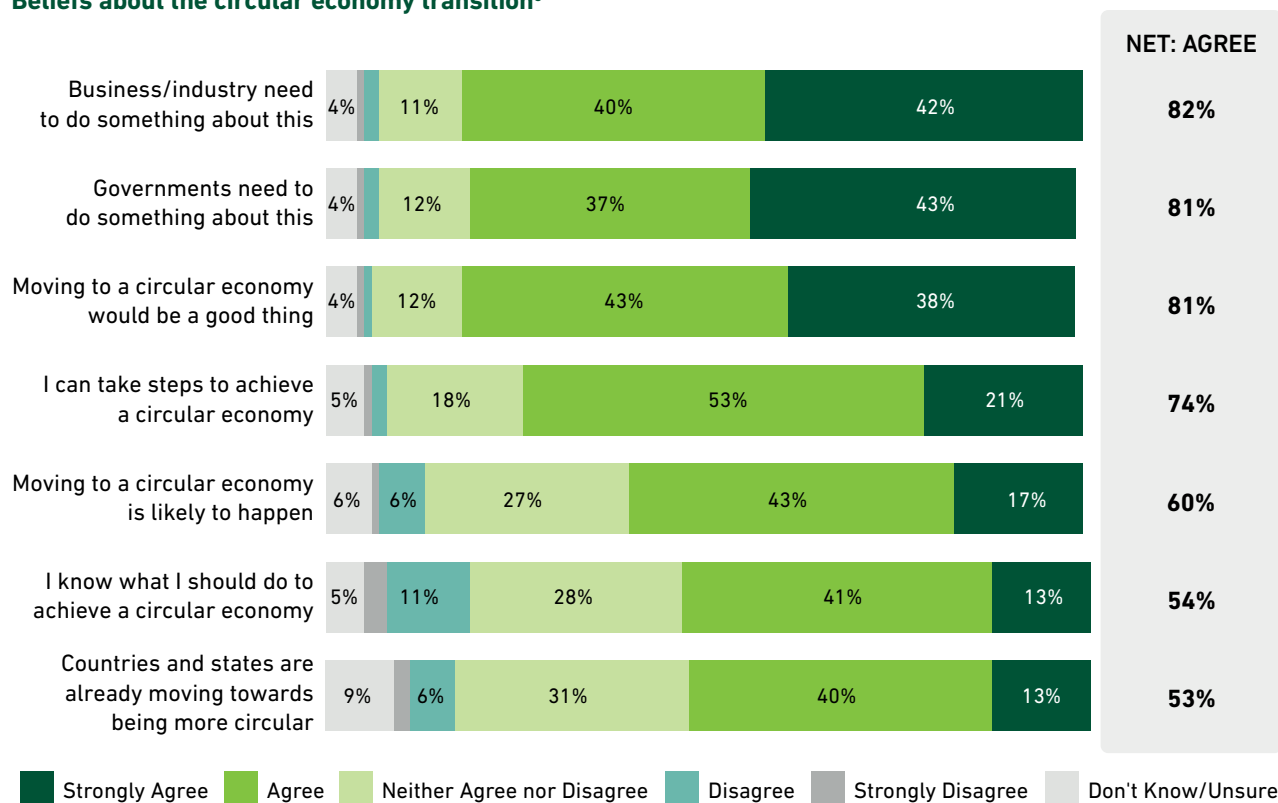
- More programs, grants and incentives to live more sustainably (20%)
- Government action to address gas and electricity prices (15%)
- More promotion/build awareness of sustainability/what to do (11%).

Victorians believe the government is responsible for leading on the circular economy

People are positive about a circular economy but believe government and business are the key movers.

As shown in the chart below, only around half of all Victorians (54%) know what they can do to achieve a circular economy.

Beliefs about the circular economy transition⁵

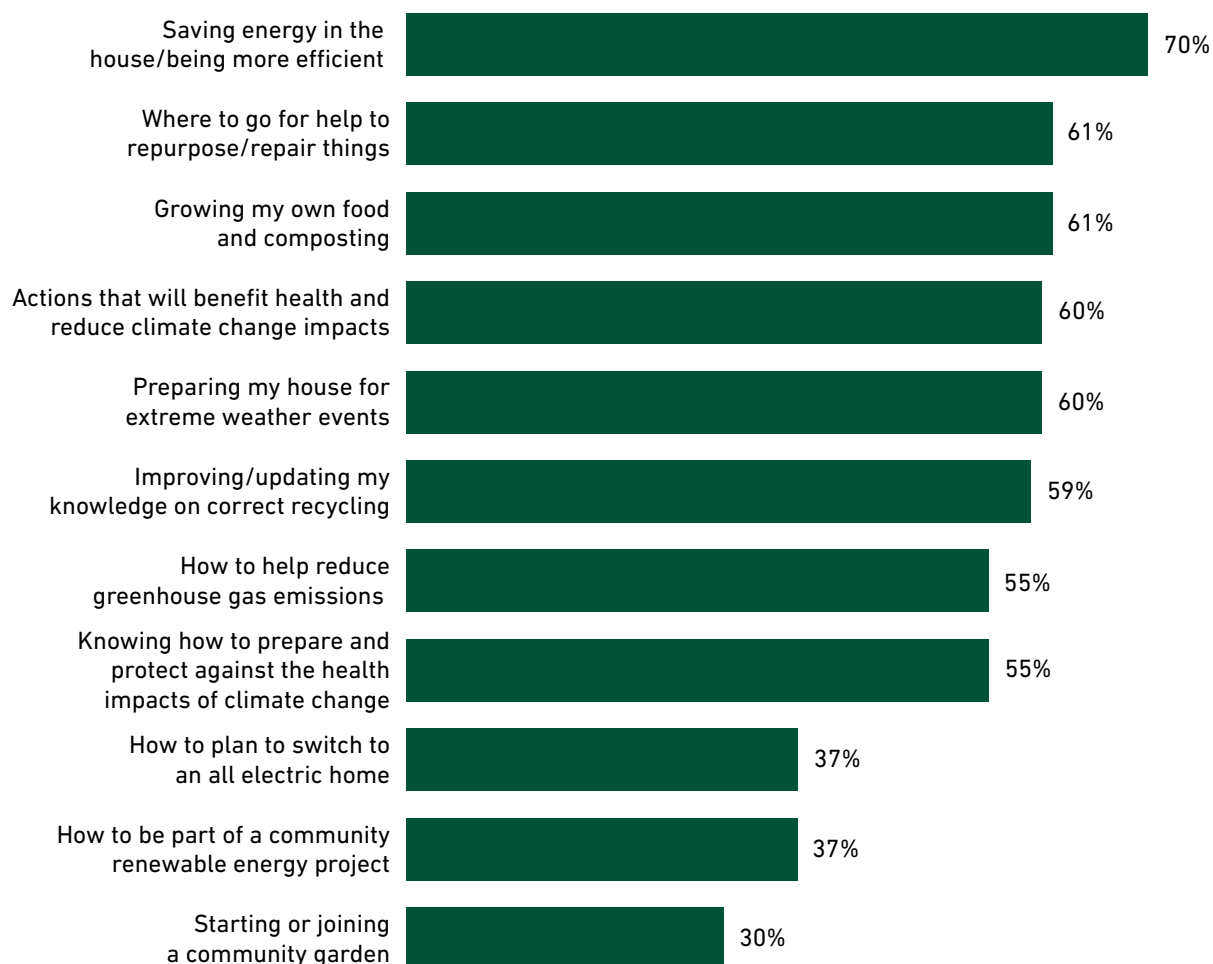


⁵ Sustainability Victoria, RV Tracking – July benchmarking, 2024.

Victorians want more support and advice from government on a range of sustainable living areas

Many Victorians are thinking about how to live more sustainably. The majority would like further support and advice on making their homes more energy efficient (70%), and there is also strong interest in knowing more about repairing and repurposing things (61%), and growing my own food/composting (61%).

Areas for more support and advice



Across demographic groups, levels of interest in more support and advice from government varied as follows:

- Those aged 55+ years recorded lower levels of interest across all topic areas.
- Respondents who speak a language other than English at home (LOTE) have higher levels of interest in all topics, compared to those who speak English only.
- Respondents with a bachelor degree also have higher levels of interest across all topics.



Methodology

How was the data gathered?

A total of 2,552 Victorians aged 16 years and older completed the online survey between 4 April and 15 May 2024. Respondents were recruited from research panels managed by professional research organisations. The survey contained over 60 questions (closed and open) and took an average of 20 minutes to complete.

Who was surveyed?

The sample is representative of the Victorian population for people aged 16 years and older.

The sample was designed to ensure a minimum number of responses from Victorians living in each regional area. This enabled adequate data collection to achieve regional insights.

To ensure representative samples were achieved among specific groups and cohorts (e.g. males aged 16 to 24), inter-locking quotas were applied to the total sample.

Respondent characteristics and regions surveyed

AGE	N=	Location	N=	Language	N=
16–24	403	Metro	997	LOTE*	197
25–34	411	Regional	1555	English only	2355
35–44	435				
45–54	396	Regions	N=	Housing	N=
55–64	379	Loddon Campaspe	244	Home owner	1558
65–74	337	Gippsland	271	Renter	727
75+	191	Central Highlands	224	Ling at home	218
		Barwon	244		
		Goulburn/Hume	201		
		Ovens Murray	150	House type	N=
Sex	N=	Great South Coast	114	Flat/unit	317
Male	1209	Mallee	92	Townhouse	222
Female	1327	Wimmera South Mallee	68	Separate	1965
Other	16				

*Speaks a language other than English at home

Other respondent variables include:

- education level
- employment status
- income
- children at home (under 12 years or over)
- life stage
- Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) deciles.

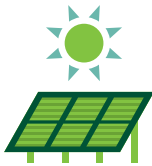
Weighting

To account for the over-sampling in regional Victoria, two weight sets were created in the analysis stage:

- A 'total' weight that weighted the total sample using three factors: interlocked age and gender, location, and education level. This weight is used throughout the report for reporting total figures, along with key demographic differences.
- A 'region' weight that removes the location weight from the weighting framework and is only used when comparing the regions of interest to each other.

Survey topics

Topics covered in 2024 were similar to those covered in 2023.

						
Climate change	Sustainable living and circular economy	Housing & energy use	Gas usage, electricity	Renewable energy	Awareness of government programs and expectations	Respondent demographics
• Attitudes, level of concern • Victorians' lived experience	• Understanding of circular economy • Attitudes and behaviours	• Thermal quality • Energy efficiency of appliances	• Willingness to switch • Barriers and beliefs	• Household use • Social licence for infrastructure	• Energy upgrades • Solar rebates	• Age • Sex • Location • Education level • Own-home/renters • Employment • Income

New survey content for 2024

New questions were incorporated into the survey in 2024 that focused on Victorians' lived experience of climate change, consumer attitudes towards circular products and services, and on barriers to electrifying homes.

These arose from a mix of stakeholder consultation, identified topics and questions from 2023 that would benefit from further investigation, and consideration of other external research and reports since.

