

Climate-resilient homes in SA

Written by Alexandra Fry, Kelvin Trimper Scholarship winner 2025

This article focuses on one practical adaptation: creating a climate-resilient space within your home — a zone you can rely on during heatwaves or cold snaps without major renovations or expense.

This article will draw on examples from a house retrofitted for Sustainable House Day 2025, as well as other examples from my work visiting homes as a Residential Scorecard assessor in South Australia.

It seems each week we face a new impact of climate change: increased risk and intensity of fires, heatwaves, heavy rain events and flooding. Even if you are not in a region directly affected, you may still feel the effects of climate change in your home. In many parts of Australia, the risk of health issues from increasing temperatures is becoming more and more obvious and concerning.

In a world where the reality is setting in where we may not be able to stop rising temperatures from climate change at the crucial 1.5 degrees, we are being asked to do two things at once: **continue to reduce carbon emissions *and* adapt to the changing climate conditions we are already experiencing.**

So, what does this look like in a practical sense?

How can regular Australians adapt in an everyday home?

One cost effective approach is to make sure you have at least one **climate resilient space** in your home.

This is not about building a brand-new 7-star NatHERS home, creating an underground bunker, or undertaking a full renovation. It is about practical, often low-cost changes that most households can make to improve comfort, safety, and resilience in the face of a changing climate.

The article is intended as a practical step-by-step guide for a householder to create a climate resilient zone for their house. You can assess your own home using this guide and create an action plan to follow.

These steps and ideas are based on observations from numerous homes across South Australia, growing interest in climate resilience from councils and other organisations, and using examples from a rental home retrofitted for Sustainable House Day 2025.

Background

In an ideal world, every home would be weather and draughtproof, have suitable ceiling insulation for its climate, good quality windows and effective window coverings, have good solar orientation, and efficient heating and cooling.

In reality in South Australia, unless your house was built to a NatHERS minimum compliance requirements (6-stars from 2010 and or 7-stars since 2023), features common to creating a climate resilient and energy efficient house, particularly in rentals, are not yet mandated.

Other jurisdictions such as Victoria, the ACT and New Zealand, are beginning to implement, or have for some time, stronger minimum standards for a home's thermal and energy efficiency. These standards are slowly improving the quality and liveability of housing stock as well as the communities understanding about the benefits of such features. Many households in the rest of Australia are still living in homes that struggle during heatwaves and cold snaps.

The aim of making your home climate resilient is to create a space that remains comfortable, affordable to run, and functional when conditions outside are extreme.

Checklist: identifying a climate resilient space

The list below are the key features to a climate-resilient space.

- A zoned space
- Weather and draught proofing
- Window orientation, shading and coverings
- Efficient heating and cooling
- Insulation
- Access to essentials

Step 1: A zoned space

Identify a zone in your house and make sure it can be properly closed off. A zoned space is one that can be separated from other parts of the house using a door, hallway, or at minimum, a curtain.

This does not have to be the main living area. In some homes, the main bedroom may be a better option. The key requirement is that the space can maintain comfortable temperatures, and be heated and cooled as required, separately to the rest of the house.

Modern open plan homes can be particularly difficult to zone efficiently. If this is the case for you, it may be more practical to focus on a bedroom that is close to a bathroom/ensuite or kitchen, otherwise heat and cool your living space but close doors to unused rooms.

If you have young children or older people – can this zone entertain and support everyone for hours or days? I.e. power points for medical equipment, space for toys and playing? Can you bring in some mattresses to sleep here?

Checklist: zoning

Check	Notes
☐ Space can be closed off	Use a door, block the entrance to a hallway, or use a curtain
☐ Size is manageable	Smaller spaces are cheaper to run heating and cooling
☐ Essential services nearby	Toilet, water, kitchen access, for example

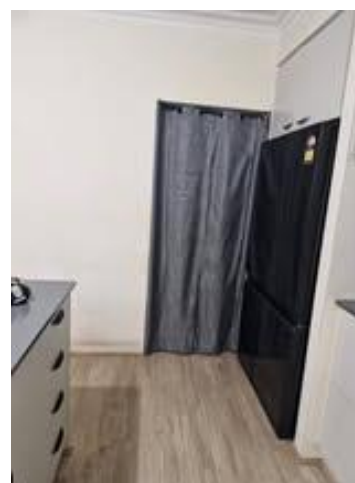


Figure 1: closing off rooms that have doors separating them can create a zoned space.

Figure 2: a cheap curtain and tension curtain rod from Bunnings was used to section this kitchen/lounge off from the hallway, and create a zoned space. Courtesy of My Efficient Electric Home, Facebook.



The featured Sustainable House Day 2025 property

The green border outlines the climate resilient space in this house, which is part of the lower floor.

It is a two-storey rental home, with a 103 m2 floorplan.

There is a door and wall between the living room, and the meals/ family/ kitchen zone. Closing this door allows the space to be zoned off from the rest of the house. The combined family room can be heated and cooled by an efficient wall mounted reverse cycle air conditioner, plus a ducted evaporative AC. There are suitable window coverings and the space has access to both the kitchen and a toilet, and the garage.

Other features to note

The outdoor entertaining area faces south and has an outdoor fan – extending the living space.

The living room faces north. It has the shade of three trees blocking the strong summer sunlight.

Stairs off the living room lead to bedrooms and a bathroom upstairs. In most two storey homes, the upper storey gets very hot in summer. The lower storey stays cooler by comparison, and temperatures stay more even. This is why the lower floor space is the best choice for the climate resilient space.

Weather- and draught-proofing

Once a zone is identified, the next step is to check whether it is weather- and draught-proof. Draughts around doors and windows allow hot air in during summer and warm air out during winter, increasing discomfort and energy use. Gaps in floors, behind cupboards, skirting boards and wall vents are other areas to look out for.

If you can see gaps and/or feel air movement through gaps, draught sealing should be a priority. Many low-cost and renter friendly products are available, and in some cases, weatherproofing is the landlord's responsibility (see at the end about renting in SA).

Checklist: draughts

Check	Possible action
☐ Draughts around doors	Install weather seals at the bottom, seals like EMV tape or Draught dodgers around the perimeter. Door snakes are good for internal doors.
☐ Gaps around windows, skirtings boards, plaster etc	Use a suitable sealer where you can see gaps in the house. Fulaseal 701 is a generally recommended for many small gaps as it dries clear and can be painted over. Use gap filler rod for gaps in skirting boards. Use expander foam for big gaps. If in doubt – visit your local hardware store with photos and measurements.
☐ Temporary solutions (if renting)	Suitable for renters of those on limited income – use an old towel or blanket as a door snake, buy rugs to lay over cold floors, use foam to shove in gaps that you can remove later.
☐ Other draughts	Find and seal/replace any wall vents, old chimneys, ceiling-recessed downlights, non-self-sealing exhaust fans. See links below for DIY or more information.

DIY resources for draught sealing your home

- Online stores like [EcoMaster](#) store or [Sellaseal](#)
- [Green it yourself](#)
- [The FixIt Chicks](#) (Instagram)
- Time Forcey's [My Efficient Electric Home Handbook](#)

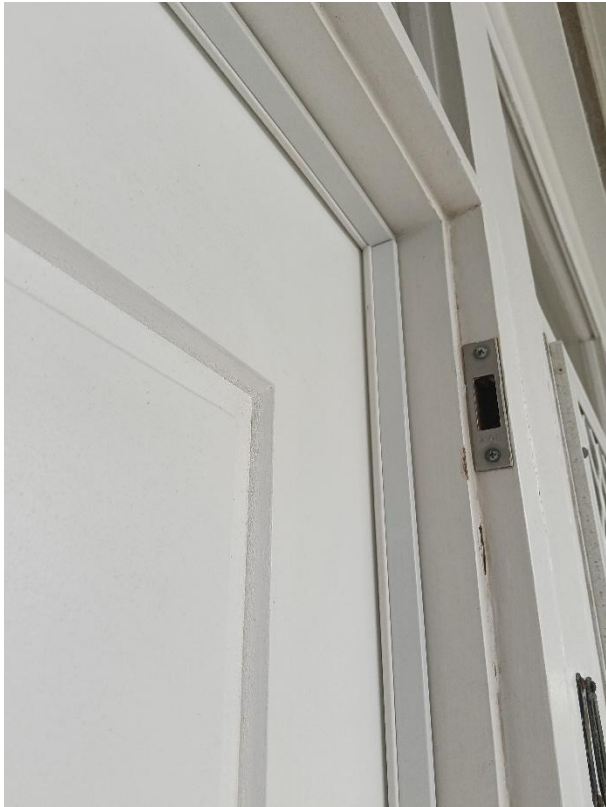


Figure 3: You can get a product called Draught dodgers from EcoMaster Store. They are stuck onto your door and window frames and seal against the door or window. They won't impact your door/window opening and closing and will last for years.



Figure 4: Where there is a gap like this between your doors or windows and frames, consider draught proofing them to stop heat loss or gain.

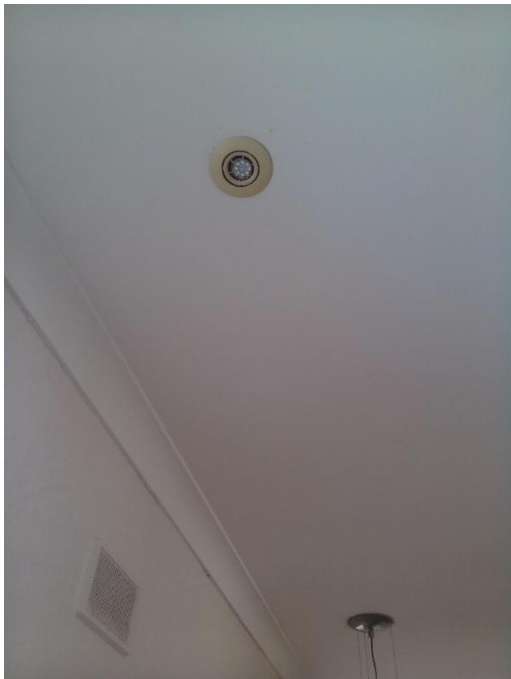


Figure 5: Wall vents and old downlights with gaps around them like this also let air escape out of your room.



Figure 6: This fan in a bathroom does not seal itself when off, you can see directly through. This will be an area where you lose heat in winter and gain it in summer.

Windows, shading and orientation

Windows play a major role in how much heat enters or escapes a home. Understanding which direction your windows face, whether you have eaves, and how summer sun enters the climate resilient space can guide practical improvements.

Note: this section focusses on windows for your whole house, but to start just focus on your resilient space. This might be 1, 2 or 3 windows – or none.

If your home overheats in summer, the most effective approach is to stop heat **before** it reaches the glass (by shading it).

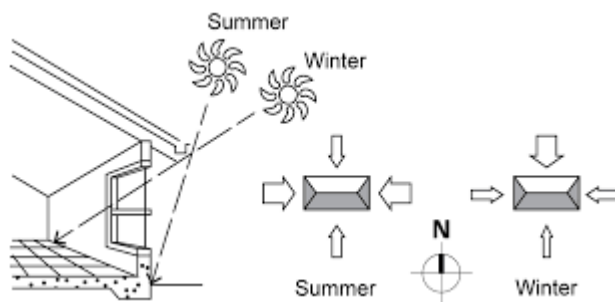


Figure 7: This image is from yourhome.gov.au/shading. The large arrows show where the most heat comes from via the sun in different seasons. In summer, its east and west, and winter it's the north.

Ideally your house has eaves, or at least a fixed eave of 300mm+ on the north (the size is dependent on where you live). If not – can you add one?

Winter: Open curtains and blinds to heat your room via the sun's warmth.

Summer: shade the east and west windows with temporary or retractable shade that can be taken away or moved in winter.

In order of priority to prevent heat gain in summer:

1. Create shade for the wall and windows (plants, shade cloth, external blinds).
2. Improve internal window coverings to thick fabric so they fit well against the wall and reduce gaps.
3. Reduce solar heat gain through the glass in summer (low-E film or reflective films), especially if sunlight hits the window directly in summer and external shading isn't possible.

Checklist: windows and shading

Check	Priority / notes
☐ Window direction identified	North / east / west / south (follow rules above or find out more here).
☐ Effective eaves present above north facing windows/walls	If yes, they can be used to shade windows/walls or hang shade from. If no, the summer sun will be heating up the house and you probably need some external shading here in summer.
☐ External shading	Highest priority if not existing: add effective shading over east and west-facing windows for summer shading.
☐ Window film/covering installed (if needed)	Renter-friendly options available, like Renshade , Bubble wrap or clear corflute.
☐ Effective curtains or blinds	Will help in both summer and winter. To be effective they need too: • Be a close fit to the wall, • be topped by a pelmet or similar, • extend beyond the sides of windows, • reach down to the floor, and • be a thick fabric or a fabric with lining.

Resource

Yourhome.gov.au/shading



Figure 8: where possible, this house with no eaves to shade windows or walls, was able to use external shading to reduce the heat build-up via windows facing north. They have a cafe blind and bushy shrubs.



Figure 9: retractable cafe blinds are a great option for east and west facing windows. Raise them in winter to let in the heat and lower them in summer to shade the windows.



Figure 100: Adding shade cloth is a great way of shading hot parts of your house, and even creating a little microclimate and garden. This space can be watered in the evening and cool down the air around the house, allowing doors and windows to be opened to cool the house.



Figure 11: an old sheet or blanket can be clipped to a gutter to provide shade too. This is a low cost and renter friendly option.



Figure 112: a west facing upper storey window with no eaves - using Renshade to reflect the sunlight and a honeycomb blind to insulate the room inside.

Figure 13: thick lined curtains fitting close to the wall provide good coverage and create an air gap between the fabric and glass. You can even layer multiple types of curtains for decoration.



Figure 124: People have recently started using clear corflute sheets to mimic double glazing. This image shows it cut to fit against the glass with the channel laying horizontally. This will insulate the window, losing less heat to outside in winter. You can also use bubble wrap to insulate glass or lower your outdoor roller shutters to mimic double glazing and keep the heat in in winter.

Efficient heating and cooling

An efficient heater or cooler in the chosen resilient space can make a significant difference during extreme temperatures. A single-room reverse-cycle air conditioner is generally the most efficient option for both heating and cooling in one unit.

If you already have one, using efficient temperature settings and maintaining the unit (such as cleaning filters regularly) will improve performance and reduce running costs.

If you rely on plugin heaters, be aware that many can cost \$1 per hour or more to run, particularly without solar or battery storage. Be mindful and use them for limited periods of time if cost is an issue. Plug-in pedestal or ceiling fans, by contrast, are very cheap to operate and can greatly improve comfort in summer.

Checklist: heating and cooling

Check	Notes
☐ Single room reverse-cycle AC installed	If you don't have one, consider getting one installed in the climate resilient zone you choose. Check to see if you can get a discount with the SA Retailer Energy Productivity Scheme .
☐ Efficient temperature set	18–21°C winter, 24–27°C summer (or dry mode on these summer temps to help reduce indoor humidity).
☐ Filters cleaned regularly	Twice per year. Google your model of air conditioner and find out how to do this, or ask for help.
☐ Low-cost cooling and heating available	• Pedestal and ceiling fans in summer • Electric blankets or throw rugs in winter • Ugg boots, blankets and oodles in winter.

Note: When spending time in your resilient space during a heat wave or cold snap, and running your heating and cooling – close your zone off using doors or curtains, close blinds and curtains on windows. Try to use appliances that don't produce heat in summer (i.e. the oven, or halogen downlights).

Resource

To look at the running costs of heating and cooling items, visit the [SA Government Energy Advisory Services Winter Heating and Summer Cooling Guide](#).

Use the [Running Cost Calculator](#) to estimate your appliances hourly, daily, quarterly running cost.



Figure 135: a small wall mounted reverse cycle air conditioner is the most efficient heater. Large and ducted systems can cost more to run. If you buy a new AC, get the highest star rating that you can afford. Check the running costs here at the [Energy Rating website](#).



Figure 146: DC ceiling fans are useful in both summer in winter. In summer they can cool you down by moving the air across your skin, and are a great alternative to running the air conditioner, especially when you sleep. In winter, if you have high ceilings, you can reverse the direction on winter mode and push down hot air that has risen – reducing your heating costs.

Ceiling insulation

Ceiling insulation plays a critical role in maintaining stable indoor temperatures. While upgrading insulation may not always be possible for renters, it is still important to understand what is present and where gaps exist.

Checklist: insulation

Check	Notes
☐ Ceiling insulation present	The thicker the better. If you can see the rafters, and gaps are present, or it's a bit low – it's probably not as effective as it could be. If above the rafters (like the image below) and no gaps, it should be working well.
☐ Coverage is consistent	Do you have gaps? If yes, you can tidy up the insulation and fill the gaps with new batts. Either seek a quote for a professional to do this – or follow safety guidelines and research before undertaking yourself. Pricewise Insulation is a great resource for DIY projects and offer videos to step you through the process.



Figure 157: The SHD house had its insulation tidied up, and extra layer laid over top. This is what it looked like afterwards - a consistent even layer with no gaps. Work completed by [Cosywrap](#).



Figure 168: this house by comparison has gaps, is patchy and is not deep. It has degraded over time with animals and weather. It will not be working as it should.

How else can climate-resilient spaces be useful?

A climate-resilient space allows you to safely live in one area of your home until a heatwave or cold snap passes (whether 6 hours, or 3 days). It can provide access to essential services like a bathroom or kitchen, and reduces health risks during extreme temperatures, and lowers energy costs.

Importantly, these same considerations also align closely with accessibility.

Accessibility and housing

Imagine breaking a leg while living in a two-storey home where the kitchen, bathroom and/or bedroom are upstairs. How would you adapt and get by day to day? Now consider people who live with long-term mobility limitations, chronic pain, or respiratory conditions.

Designing homes — or zones within homes — that work during climate extremes also supports accessibility and inclusive housing outcomes. Read more about liveable and adaptable homes below:

- [The liveable and adaptable home](https://yourhome.gov.au) (yourhome.gov.au)
- [Liveable Housing Design](#)

Renting and making changes

If you rent, don't be afraid to ask about making modifications to improve comfort, energy efficiency and climate resilience. Some improvements, such as weatherproofing, may already be an obligation of the landlord. Others can be done without permission, and some may simply require a clear, well-presented request.

Writing to your landlord, providing quotes from licensed tradespeople, and explaining the long-term value of upgrades (such as window shading or air conditioning) can make these conversations more productive — especially if you plan to stay in the property for several years and if you are willing to contribute towards costs.

You can check if your rental meets the Minimum housing standards here:

<https://www.housingsafetyauthority.sa.gov.au/minimum-housing-standards>.

If you have concerns about your rental, contact the team at housingsafety@sa.gov.au, [1300 700 329](tel:1300700329)

If you want to ask questions about your renting rights, or the Residential Tenancies Act, contact [RentRight SA](#) on 1800 060 462.

Other resources for climate resilience in SA

Retailer Energy Productivity Scheme (REPS): [ESCOSA information page](#) and activity providers, [YESS](#) and [MAC Trade Services](#).

Code red and blue in SA: South Australia is the only state that has an emergency alert system for extreme heat and cold weather. [Read more here](#).

Geelong Sustainability: [Climate Safe Rooms](#)

Safer spaces are in two categories in SA, identified for **bushfire** and **extreme heat** events, each serving a different purpose and offering varying levels of safety. For heat waves, you'll find cooling centres in community spaces like libraries and community centres.

Homelessness Services also offer expanded services during heatwaves.



Figure 179: while working from the Campbelltown Library in Adelaide, I saw this poster. Many community spaces are following suit to protect those with poorly performing homes, helping them stay physically safe in heat waves.

Council Grants

- [City of Charles Sturt Energy and Climate Change Assessment Grant](#)
- [City of Adelaide Incentives for Sustainability](#)
- [City of West Torrens Climate Resilient Living Rebate](#)

Council resources

- [Resilient east; Climate ready homes resources](#)
- [Adapt West](#)

The Sustainable House Day retrofit project was undertaken with funding from SA Power Network inaugural Kelvin Trimper Scholarship.