

HOTHOUSE AUSTRALIA:

**Our kids
at risk
as heat
soars.**



**PARENTS FOR
CLIMATE**

**SWELTERING
CITIES** 

Keeping families heatwave-safe at home and school.



Every home should be a heart refuge.



OVERVIEW

As the nation confronts another record-setting summer, many Australian families face the prospect of being unable to keep their kids cool as cost-of-living pressures stretch households to the financial limit.

Struggling parents, already making hard choices to keep food on the table and a roof over their families' heads, are increasingly reluctant to use costly air conditioning and cooling appliances in Australia's poorly insulated and energy-inefficient homes.

At the heart of the issue are two crises—the escalating cost of living and climate change. Both have the potential to significantly amplify the impacts of the heatwaves predicted for the coming summer, leaving kids at increased risk of long-term poor health and adverse life outcomes.

The challenge now is for all levels of government in Australia to drive down energy costs and lower carbon emissions. This can be achieved by supporting households to upgrade their homes, making them easier to cool and safer to live in.

The Australian Council of Social Service has warned that 3 in 4 lower-income households are likely to cut back on the use of fans and air conditioners due to cost pressures.¹ The Melbourne Institute also found that 1 in 5 Australians cannot afford to heat or cool their home to a comfortable level.²

For many families, there is now no real choice: to make ends meet, they must flick their switches off. In the middle of a heatwave, this can spell disaster.

This report, prepared by Parents for Climate and Sweltering Cities, finds that millions of vulnerable families, especially the more than 760,000 children living in poverty in Australia,³ will face heightened heat risks over this and subsequent summers.

Hothouse Australia is a call to protect Australian families from the twin threats of rising heat and rising costs. It provides a range of recommendations that, if adopted, will cool down homes and protect Australian families—all while driving down carbon emissions.

As climate change intensifies due to the reliance on coal, oil and gas, it's time for all of us to shift our perspective on high heat. We need to move away from viewing heat as merely uncomfortable, and recognise that it can cause significant short and long-term damage. For children, this damage includes severe heat stroke and increased risk of asthma, chronic respiratory illnesses, cardiovascular disease and even death.⁴

The stark reality is that heatwaves kill more people in Australia than all other environmental disasters combined, with extreme heat standing out as the leading weather-related cause of hospitalisation and death.⁵

At the same time, we know that heat is a particular risk to children. Not only are they physiologically less able to regulate their temperatures than adults, but they also experience adverse effects from heat at lower temperatures.

Every year we're reminded of the dangers of leaving kids in cars, even for short periods. But what is less well-known is that children are increasingly experiencing the significant consequences of extreme heat in uncooled homes, schools and childcare centres.

To protect vulnerable Australian families this summer, the Commonwealth Government should consider urgently expanding the Energy Bill Relief measures announced in the 2023/23 Federal Budget.

This report calls on the Commonwealth to work with the states and territories to protect the most vulnerable Australians from the effects of heat at home, school and in childcare centres. To achieve this, it proposes new and expanded initiatives to drive down household energy costs.

These measures include the rollout of efficient reverse-cycle air conditioning units powered by rooftop solar panels in all low-income households, as well as all schools and childcare centres, and better thermal insulation in all Australian homes to stop kids sweltering in unsafe homes and learning environments.

With Australian residential buildings accounting for more than 10% of total annual carbon emissions, improving their energy efficiency will have the twin effect of driving down power costs while delivering a decarbonisation dividend.⁶

To secure our children's prospects in a world increasingly defined by heat, we need to reduce carbon emissions. We can do this by improving the safety and liveability of our homes and learning environments, protecting them from the worst impacts of Australia's hothouse future.



3 in 4 lower-income households are likely to cut back on the use of fans and air conditioners due to cost pressures.



1 in 5 Australians cannot afford to heat or cool their home to a comfortable level.

1. ACROSS Media Release, New report shows that action is needed to protect those on the lowest incomes from summer heat. https://www.acoss.org.au/media-releases/?media_release=new-report-shows-that-action-is-needed-to-protect-those-on-the-lowest-incomes-from-summer-heat 2. Melbourne Institute, Taking the Pulse of the Nation, 2023, <https://melbourneinstitute.unimelb.edu.au/data/taking-the-pulse-of-the-nation-2022/2023/energy-poverty> 3. One in eight people in Australia are living in poverty, ACROSS, https://www.acoss.org.au/media_release/one-in-eight-people-in-australia-are-living-in-poverty 4. The coldest year of the rest of their lives, UNICEF, <https://www.unicef.org/media/129506/file/UNICEF-coldest-year-heat-waves-and-children-EN.pdf> 5. AIHW, Let's talk about the weather: injuries related to extreme weather, <https://www.aihw.gov.au/reports/injury/extreme-weather-injuries/contents/extreme-heat> 6. Department of Climate Change, Energy, the Environment and Water <https://www.energy.gov.au/government-priorities/buildings/residential-buildings>

1. Our children are feeling the worst impacts of heat.



Australian kids are experiencing extreme heat with unprecedented frequency and intensity. As fossil fuel-driven climate change causes local temperatures to trend upward year-on-year, the impacts of extreme heat will fall disproportionately on children and young people.

The IPCC projects that 7 million Australian children and young people will face high heatwave frequency by 2050. Hundreds of thousands will face severe and extreme temperatures that are a risk to life and health.⁷

A substantial number of Australian children are already exposed to extreme temperatures and severe heatwaves, posing risks to their health and well-being.⁸ In 2023, large parts of Australia have experienced soaring springtime temperatures that would have been unthinkable only a few short years ago.⁹ The Bureau of Meteorology has warned Australians to expect a summer of unusually high heat.¹⁰

Children are more vulnerable to the physiological impacts of extreme heat and heatwave events than adults. Infants and young children are less able to regulate their body temperature, putting them at greater risk when exposed to high and prolonged heat.

Children are also more susceptible to a range of health issues due to extreme heat, including heat stroke, heightened allergy risks, increased risk of chronic respiratory conditions and asthma, and increased risk of cardiovascular disease. Compounding this problem, children are often less capable of mitigating these risks. Kids have less choice, less agency and less capacity to make adaptive changes.¹¹

Kids, more than adults, need a comfortable environment to thrive and stay healthy.

Extreme heat also affects children's education and future livelihoods. Heatwaves lead to poor nutrition in children and are linked to lower achievement and attendance in school. High air temperatures and lower hydration are known to affect children's ability to concentrate.¹²

On top of this, extreme heat is increasingly expected to coincide with other heat-related events, such as bushfires, making the availability and provision of comfortable homes, schools and workplaces far more necessary than it has been historically.

The impacts of extreme heat and more frequent bushfires also pose a significant risk to pregnant people and their babies, with increased risk of miscarriage and developmental delays.¹³

7. The coldest year of the rest of their lives, UNICEF, <https://www.unicef.org/media/129506/file/UNICEF-coldest-year-heatwaves-and-children-EN.pdf> 8. Ibid 9. Spring heat records shattered as Australia warms towards a long, hot summer, SMH 13/09/23 <https://www.smh.com.au/environment/climate-change/spring-heat-records-shattered-as-australia-warms-towards-a-long-hot-summer-20230918-p5e5jd.html> 10. Summer of severe heat predicted as Bureau of Meteorology declares El Niño, ABC <https://www.abc.net.au/news/2023-09-19/bom-officially-declares-el-nino-underway-2023/102495394> 11. Burke S, Sanson AV, Van Hoor J, The Psychological Effects of Climate Change on Children, 2018 12. The coldest year of the rest of their lives, UNICEF, ibid 13. Heatwaves and wildfires suffocate our healthy start to life: time to assess impact and take action, Amita Bansal, PhD, Prof Nicolas Cherbuin, PhD Prof Deborah L Davis, PhD Prof Michael J Peek, FRANZCOG Amanda Wingett Prof Bruce K Christensen, PhD, et al.

2. The spiralling cost of living is forcing families to switch off.



Australia is in the midst of a cost-of-living crisis, leading many Australians to make the hardest of choices: put food on the table or adequately heat and cool the family home.¹⁴

ABS data shows the cost of living is up significantly across all key metrics. In the year to June, the cost of food across the country rose 7.5%. This average includes sharp rises in staples like dairy products, up 15.2%, and bread and cereal products, up 11.6%.¹⁵

Energy costs in 2023 increased by over 20% in some parts of the country, notably South East Queensland, New South Wales and South Australia. This trend is projected to continue into 2024.¹⁶

These rising energy costs hit lower-income and rental households hardest. Yet there are currently no explicit requirements in any Australian jurisdictions for cooling in rental homes or social housing. Nor are there minimum requirements for thermal performance or access to rooftop solar systems, which would make it affordable to keep homes cool.

Energy poverty is a growing problem in Australia, where it is estimated that up to 14% of households currently suffer energy hardship.¹⁷ This 14% is predominately comprised of people on lower incomes, people living in public or community housing, single-parent households, people with chronic health conditions or disability, households relying on Jobseeker payments, and immigrants from non-English speaking countries.¹⁸

At the same time, housing affordability and availability are at all-time crisis levels. More people are renting than ever before, and rents are rising at the fastest rate

since the global financial crisis 15 years ago. Intensifying this already dire situation, rents today are increasing from a considerably higher proportion of income.¹⁹ Rents rose 6.7% nationwide to June 2023, but increased by 11.5% in capital cities, with Sydney, Melbourne and Perth up by 13%.²⁰

The high cost of cooling Australia's poorly insulated and energy-inefficient homes is causing families to switch off their cooling appliances at record levels.²¹

Data published by the Australian Council of Social Services (ACOSS) at the end of last summer suggests almost 3 in 4 lower-income households are already switching off their cooling devices to keep costs down.

Respondents to the Sweltering Cities 2022 Summer Survey—the largest survey ever on heat, health and homes in Australia—painted a stark picture. Two-thirds of people reported feeling unwell on hot days or during heat waves, and 84% had trouble sleeping. One in eight respondents reported seeking medical care when they felt unwell in the heat.²²

According to ACOSS, “Almost two-thirds of people on income support (62%) struggle to keep their homes cool in summer; 90% said the heat makes them sick and 30% have had to seek medical treatment due to heat stress; 83% said they find it hard to pay their energy bills. 63% said they are going without essentials like food or medical care and 68% said they went into or increased their debt to pay energy bills”.²³

14. ACOSS, Energy cost of living snapshot 2023 <https://www.acoss.org.au/wp-content/uploads/2023/10/ACOSS-Energy-Cost-of-Living-Snapshot-October-2023.pdf> 15. The Guardian, Young Australians forgoing necessities as cost-of-living crisis deepens wealth divide, <https://www.theguardian.com/australia-news/2023/sep/03/cost-of-living-crisis-price-rises-increases> 16. Australian Energy Regulator, State of the energy market 2023, <https://www.aer.gov.au/documents/state-energy-market-2023-chapter-7-retail-energy-markets> 17. Energy Consumers Australia, Energy Consumer Sentiment Survey, December 21, <https://ecss.energyconsumersaustralia.com.au/sentiment-survey-december-2021/managing-household-bills-sentiment-dec-2021/> 18. Power pain: An investigation of energy stress in Australia, Bryant, 2022 https://library.bsl.org.au/bsljspu/bitstream/1/13115/1/Bryant_et_al_Power_pain_energy_stress_in_Australia_2022.pdf 19. The Guardian, Australian rents are rising at the fastest rate since the GFC – and from a higher base <https://www.theguardian.com/australia-news/2023/sep/01/australia-rental-price-rise-crisis-data> 20. AIHW, Housing Affordability, <https://www.aihw.gov.au/reports/australias-welfare/housing-affordability> 21. ACOSS, Energy cost of Living Snapshot 2023, <https://www.acoss.org.au/wp-content/uploads/2022/04/FINAL-Summer-Survey-2022-Report.pdf> 22. Sweltering Cities, Summer Survey Report 2022 <https://swelteringcities.org/wp-content/uploads/2022/04/FINAL-Summer-Survey-2022-Report.pdf> 23. ACOSS Heat Survey report 2023 https://www.acoss.org.au/wp-content/uploads/2023/02/Heat-Survey-Report_20230228.pdf

3. Renting in Australia is becoming a heat hazard.



Millions of Australian families are living in substandard housing that is expensive to cool. Despite recent changes mandating a minimum energy standard of 7 Stars for all new homes built from 2024 onward, the reality is that up to 8 million homes were built before the introduction of any minimum energy standards. This means many of those homes could have an energy rating as low as 1.5 Stars.²⁴

Renters make up one-third of Australian households,²⁵ and they are disproportionately exposed to the negative effects of low energy efficiency housing and low-quality or non-existent cooling devices. Not only do they face restrictions on the modifications they can make to their homes, but many report that their landlords are unwilling to make improvements to make their properties more thermally safe. Sweltering Cities' 2022 Summer Survey found that "Nationally 32.8% of renters have requested upgrades to their homes, but less than 15% of those actually saw improvements to maintain safe temperatures."²⁶

"I feel powerless as a renter to ask for better living conditions, because I can't afford another rent increase. Regardless, I think it is unacceptable for landlords to be selling accommodation in houses that are unsuitable for living 3 months of the year."

Renter, Qld ²⁷

Many homes are offered for rent without any cooling whatsoever: renters across Australia are regularly reporting indoor summer temperatures above 30°C, while temperatures exceeding 40°C are becoming more frequent.²⁸

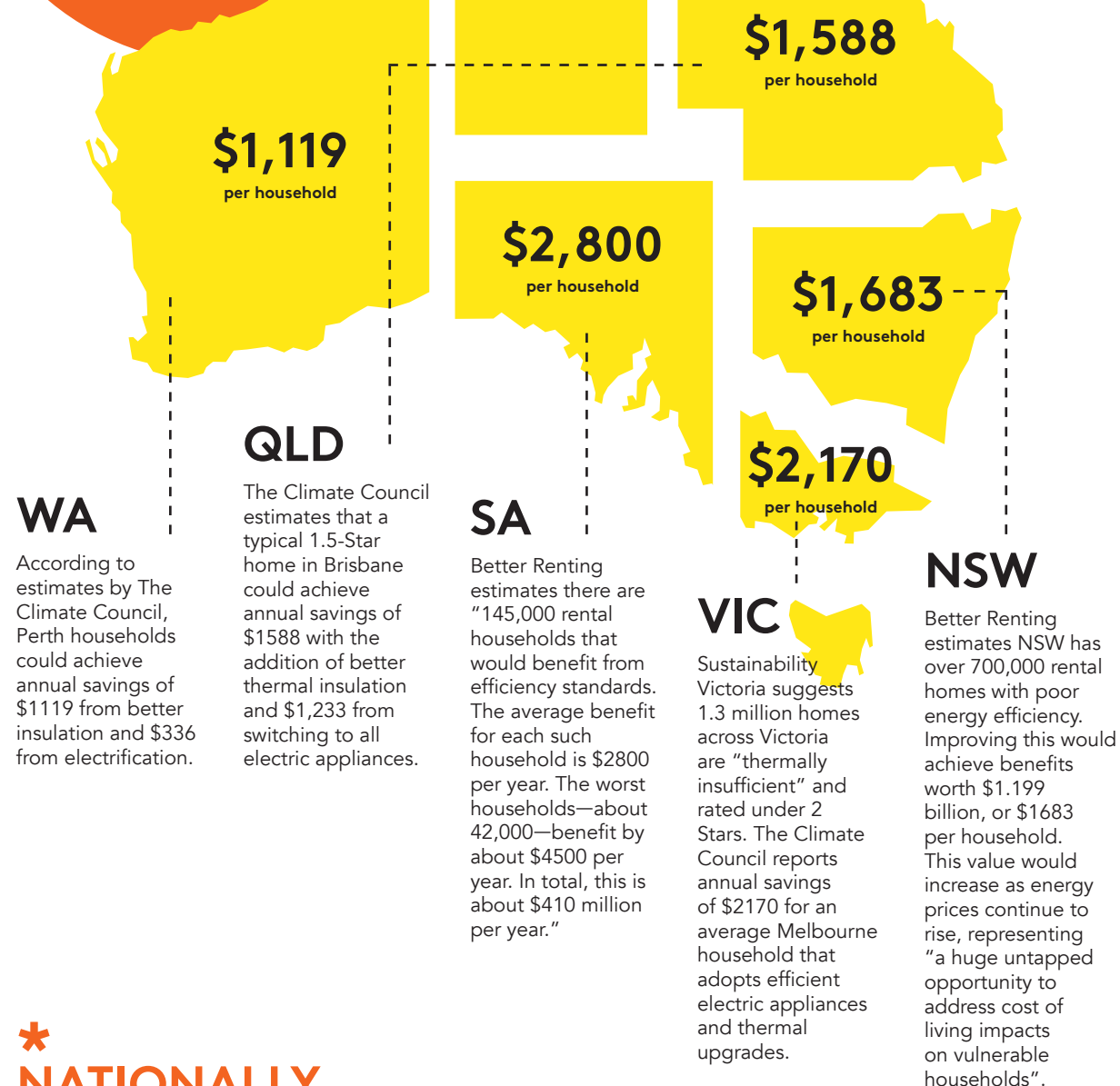
Kids living in these hot homes are suffering disproportionately more than adults. This is especially true of kids in cities, where access to cool spaces outside the home is more limited. Large swathes of urban Australia are paved and have little tree cover. As a result, playground surface temperatures can exceed 80°C. Couple that with the urban heat island effect, which can see areas like Western Sydney and Melbourne's western suburbs reach daytime summer temperatures more than 10°C higher than other suburbs, and the prospects for children are poor.

Even when cool spaces are available, it can be a challenge for people to use them. Sweltering Cities found that 50% of renters and 15% of people who own their homes leave their residences on hot days to go to a cooler location.²⁹ However, many are unable to leave their houses or apartments due to restrictions to their mobility, transport options and financial capacity.³⁰ For these people, the costs of high heat can spiral, affecting both their health and their finances. It becomes a vicious cycle, with little prospect of escape.

24. Climate Council, Home energy efficiency report 2023, https://www.climatecouncil.org.au/wp-content/uploads/2023/04/CC_MVSA0353-CC-Report-Two-for-One-Home-Energy-Efficiency_V5.1-FA-Screen-Single.pdf 25. Renters, Rent Inflation and Renter Stress, RBA Bulletin, March 2023 <https://www.rba.gov.au/publications/bulletin/2023/mar/renters-rent-inflation-and-renter-stress.html> 26. Sweltering Cities Summer Survey Report 2022, <https://swelteringcities.org/wp-content/uploads/2022/04/FINAL-Summer-Survey-2022-Report.pdf> 27. Ibid 28. Australian renters swelter in 'worrying indoor temperatures' of up to 40C in summer, The Guardian, March 2023 <https://www.theguardian.com/australia-news/2023/mar/02/australian-renters-swelter-in-worrying-indoor-temperatures-of-up-to-40c-in-summer> 29. Sweltering Cities Summer Survey Report 2022, ibid 30. ACROSS Heat Survey report 2023 https://www.across.org.au/wp-content/uploads/2023/02/Heat-Survey-Report_20230228.pdf

Energy efficiency upgrades would save households billions.

State-based estimates indicate electrification, combined with energy efficiency upgrades to low-income homes, would deliver billions in savings to Australian families.



* NATIONALLY

The Climate Council estimates that electrifying Australian households would result in an annual average bill savings of \$1,033, with an additional combined savings of \$2,005 per household from thermal efficiency upgrades.³¹

Lower standards, higher costs put millions of families at risk.

As rising temperatures invade millions of Australian homes with poor thermal efficiency and occupants increasingly unable to afford cooling, it's difficult to accurately estimate the number of families and children at risk from high indoor heat.

But given the available data, it's safe to conclude that millions of vulnerable families, especially the more than 760,000 children living in poverty in Australia,³² will face heightened heat risks in this and coming summers.

What we know:

- Around 8 million of Australia's 11 million homes were built before the introduction of minimum efficiency standards in the early 2000s. Most of these homes would be rated less than 3-Stars, and many as low as 1.5-Stars.³³ This is in stark contrast to the 7-Star standard that will be required for all homes built from 2024.
- A 2022 study of NSW social housing properties conducted by the UNSW Sydney found that residents were living in conditions that could threaten health and life. During summer, in some residences indoor temperatures reached 39.8°C and were above 30°C up to 62% of the time.³⁴ In 2022, around 815,500 Australians lived in social housing in over 442,700 dwellings across the country.
- Research conducted by Better Renting through the 2022 summer found on average rental homes were above 25°C for 40% of the day, and above 30°C for 5% of the time.³⁵ Almost one-third of Australian households are renters.
- The latest data from the Australian Energy Regulator³⁶ shows electricity affordability worsened in 2022–23 for both low-income and average-income households. Most low-income households paid more than double the proportion of their annual income for electricity than average-income households. The data also shows a dramatic increase in people experiencing energy hardship for the first time including a 48% increase in the number of customers with new energy debt in the \$1,500–\$2,500 range. •

31. Climate Council, Smarter Energy Use: How To Cut Energy Bills And Climate Harm, https://www.climatecouncil.org.au/wp-content/uploads/2023/04/CC_MVSA0353-CC-Report-Two-for-One-Home-Energy-Efficiency_V5.2-FA-Screen-Single.pdf pg 19) 32. One in eight people in Australia are living in poverty ACOSS, https://www.acoss.org.au/media_release/one-in-eight-people-in-australia-are-living-in-poverty 33. Climate Council, Home energy efficiency report 2023, https://www.climatecouncil.org.au/wp-content/uploads/2023/04/CC_MVSA0353-CC-Report-Two-for-One-Home-Energy-Efficiency_V5.1-FA-Screen-Single.pdf 34. Social housing temperatures in NSW exceed health and safety limits, UNSW <https://www.unsw.edu.au/newsroom/news/2022/09/social-housing-temperatures-in-nsw-exceed-health-and-safety-limits> 35. Barrett, B., Catania, L., Dignam, J., Better Renting, Sweaty and Stressed, https://assets.nationbuilder.com/betterrenting/pages/364/attachments/original/1677534064/Sweaty_and_Stressed_v1.4.2.pdf?1677534064 36. AER, Annual Retail Market Report 2022-23, https://www.aer.gov.au/system/files/2023-11/Annual%20Retail%20Market%20Report%202022-23%20-%2030%20November%202023_1.pdf

4. School is not a guaranteed refuge from heat at home.



In a wealthy country like Australia, it should be a given that our schools provide environments conducive to learning and growing. Yet many Australian classrooms lack adequate heating and cooling. This is more than a problem of mere comfort.

Studies show that optimal learning environments have a consistent temperature between 22°C and 24°C. They also show that learning outcomes decrease by about 1.5% with each 2°C increase in temperature above 24°C.³⁷

There is no coordinated program across Australian governments to provide adequately cooled schools and early child learning centres. Instead, there are piecemeal approaches in each state and territory, resulting in differing outcomes. Education advocates have been calling for a nationally coordinated approach to heat mitigation and preparedness in schools for years.³⁸

As a result, standards and programs vary wildly across the country. For instance, there is a huge difference between Queensland, where all classrooms, libraries and communal spaces in state schools now have air conditioning installed under the Cooler Cleaner Schools program,³⁹ and NSW, where the State Government has just wound up the Cooler Classrooms Program. Unfortunately, this decision has left at least 350 schools without the beneficial reverse-cycle air conditioning and ventilation upgrades.⁴⁰

In Victoria, the State Government does not include the installation of air conditioning in its school funding model. This means state

schools must organise their own fundraising to install air conditioning, while electricity consumption comes out of their operating expenses. This is a legacy of a policy that has not been updated since the 1990s.

Victorian students will swelter through hot summers in hot classrooms until there is either a change in State Government policy or the rollout of a national program to ensure all schools, classrooms and common areas have efficient reverse-cycle air conditioning.

The variation in standards and the availability of adequately cooled spaces is even more pronounced for childcare centres. While they are required to be well-ventilated, have adequate natural light, and be maintained at a temperature that ensures the safety and well-being of children, there is currently no uniform standard or requirement that childcare centres have air conditioning.⁴¹

Childcare centres face significant penalties for failing to prevent harm to children in their care.⁴² They also face a host of challenges to make their spaces safe and comfortable for children in hot weather. Many operate year-round through the summer months, so are more likely to experience adverse impacts of extreme heat than most schools.

Smaller centres frequently encounter greater challenges in securing funds for air conditioning installation. They may lack the financial resources and procurement capabilities of larger centres, which are better equipped to identify funding sources and navigate the often intricate eligibility requirements of various state and local government programs.

37. The relationship between classroom temperature and children's performance in school, Building and Environment, 2019, retrieved from <https://pdf.sciencedirectassets.com/271434/1-s2.0-S0360132319X00086/1-s2.0-S0360132319302987/am.pdf> 38. Too hot to learn, The Conversation <https://theconversation.com/too-hot-to-learn-why-australian-schools-need-a-national-policy-on-coping-with-heat-waves-73432> 39. Air-conditioning installed in all Queensland state schools ahead of schedule, Brisbane Times, <https://www.brisbane-times.com.au/national/queensland/air-conditioning-installed-in-all-queensland-state-schools-ahead-of-schedule-20220419-p5aee0.html> 40. Students bake without air-con as funding dries up, 9 News, <https://www.9news.com.au/national/sydney-students-bake-without-airconditioning-as-funding-dries-up/9e181f65-33c7-46cc-99b6-b3841397018c> 41. Education and Care Services National Regulations (2011 SI 653) <https://legislation.nsw.gov.au/view/html/inforce/current/si-2011-0653#sec.110> 42. Education and Care Services National Law Act 2010 <https://content.legislation.vic.gov.au/sites/default/files/2023-09/10-69aa019-authorised.pdf>

5. Australian governments have a critical role in managing the health and social risks.



According to research published in *The Lancet* in 2023, the Australian Government often addresses climate change and health issues in a “siloe and disconnected way at the national level,” despite the country being on the frontline of climate risk as the planet warms.⁴³ For instance, The Australian National Climate Resilience and Adaptation Strategy, released in October 2021, failed to put health at the centre of the country’s policies.⁴⁴

This is a major issue for governments. As *The Lancet* reports, from “2000 to 2019, 2296 deaths were associated with heat-related temperatures per year in Australia,” while numerous studies have shown that socioeconomically disadvantaged people and communities are more vulnerable to the health impacts of heatwaves.⁴⁵ A summary of that paper by Monash University concludes:

“... pronounced heatwaves have significantly increased the mortality burden in Australia. Between July 2010 and January 2019, heatwaves in Queensland were associated with a 5 per cent increase in all-cause mortality compared to non-heatwave days.”⁴⁶

As of yet, we have not seen a cohesive or comprehensive approach to managing climate-based health risks. However, the release of the National Health and Climate Strategy in early December 2023 is a welcome step forward, specifically the call to put ‘health in every policy’. We note the specific call for “improving building insulation, shading and ventilation” and the proposed action to assess the health impacts of the National Construction Code. It remains in the government’s hands how they will implement this strategy, but

addressing heat-health impacts on children and families in their homes and schools would clearly support the government’s health and climate agenda.

That said, piecemeal approaches and incrementalism won’t equip Australian households to meet the significant challenges they face in a rapidly heating world. There is already a growing disparity between households that can afford to adopt new technology and make changes to their properties and those that cannot.

“Overall, as the energy market transitions to variable renewable energy, the reported average energy use outcomes are likely obscuring a widening gap between those households with the capacity to adopt new technology or modify energy use, and those unable to do so (due to cost, residential tenancy laws or other barriers).”

– Australian Energy Regulator, *State of the Energy Market 2023*

We must take serious action if we want to reverse these trends and build a better future for Australia’s children. Governments across Australia are increasingly aware of the critical health, social and financial impacts of a hotter climate. Overcoming these challenges will require coordinated approaches across all levels of government, delivering the most significant positive impact for the most efficient use of resources. With our children’s futures at stake, we simply do not have more time to lose.

43. How climate change is making Australians sick, and how government policy is failing <https://www.monash.edu/medicine/news/latest/2023-articles/how-climate-change-is-making-australians-sick,-and-how-government-policy-is-failing> 44. Ibid 45. Ibid 46. Ibid.

Western Sydney: Australia's deadly urban heat island.



Home to more than 2 million people, Western Sydney is one of the most densely populated urban areas in Australia. It's also afflicted by some of the worst 'urban heat island effects' in the country, a condition that means parts of Western Sydney regularly experience temperatures up to 10°C hotter than Eastern Sydney.⁴⁷

The problem is partially geographical (Western Sydney is positioned at the foothills of the Blue Mountains, which traps heat and prevents cool air circulating from the coast). But it's also the result of decades of poor planning and urban design.

As a result, by 2050 parts of Western Sydney are projected to experience a full month of extreme heat days above 35°C. By 2090, that figure is expected to reach 58 days per year under a high emissions scenario.⁴⁸ But while conditions are expected to worsen, the negative effects of this urban heat island can already be felt today: during the heatwaves of both 2018 and 2019, Parramatta and its surrounds recorded 44 days of temperatures above 35°C.⁴⁹

At the heart of the problem is housing. Much of Western Sydney's housing is of poor thermal quality and low energy efficiency. Compounding the problem are the state's minimum rental standards, which don't include cooling appliances or access to rooftop solar. Accordingly, many residents suffer through increasingly extreme summers or make the tough financial decision to run their air conditioning, where installed.

The impact on children is profound. Dr. Sebastian Pfautsch, an urban heat expert at Western Sydney University, has determined that in certain suburbs of Western Sydney, up to 80% of the surface area is covered with roads, pavements, car parks, and other constructions that trap heat. As a result, children have limited options to escape the heat.

The Western Sydney Regional Organisation of Councils (WSROC) has identified the urban heat island effect as a significant issue for people in the region. To address this, it has adopted measures to mitigate the impacts of heat through better urban design, tree planting to provide shade canopies, and support for households, businesses, community and sporting groups to mitigate and manage the impacts of heat.

The Greater Sydney Heat Taskforce is dedicated to raising awareness about the risks associated with extreme heat and providing guidance on how to manage it. Their efforts also involve designing local infrastructure to operate effectively in hotter conditions, fostering heat-safe homes and suburbs, and establishing support systems to assist vulnerable people.

47. HeatWatch: Extreme Heat in Western Sydney <https://australiainstitute.org.au/wp-content/uploads/2022/01/HeatWatch-2022-WEB.pdf> 48. Ibid 49. Ibid



Solutions.

The following recommendations to government are underpinned by the principle that all Australian children at home, school and early education can learn, live and thrive in heatwave-safe buildings, protected from the worsening impacts of extreme heat.

This report outlines a stark reality: that kids are facing worsening heat conditions which adversely impact their health and their learning. Fortunately, the opportunity to enact structural and long-term solutions does exist. Through the provision of comfortable homes and schools, powered by clean and affordable rooftop solar energy, families and communities will be healthier, more resilient and with reduced costs of living.

In terms of the immediate threat presented by this summer's predicted record heat, the Commonwealth Government should consider urgently expanding the Energy Bill Relief measures announced in the 2023/23 Federal Budget.

Beyond this, urgent policy reform, investment and collaboration are needed from all levels of government to upgrade homes, schools and early childhood education centres to be heatwave-safe. This will ensure all Aussie kids, their families and communities can thrive in comfortable homes and learning environments, all powered by clean and affordable rooftop solar energy.



Group 1. Low-income homeowners

Recommendation

1. All low-income homeowners are equipped with energy-efficient air conditioning, solar and insulation.
2. Create subsidies and low-cost finance models that support and incentivise homeowners to perform energy upgrades and install rooftop solar. An example of this is Victoria's Solar Homes Program.
3. For buildings that have shared rooftops, such as on low-rise apartment buildings, remove barriers, develop finance models and create incentives for body corporates, building owners and tenants, to install rooftop solar. An example of this is the ACT's Solar for Apartments Program.



Group 2. Renters

Recommendation

1. All renters have access to homes with energy-efficient air conditioning, solar and insulation.
2. Introduce uniform national minimum energy performance standards for rental properties that mandate clean energy and efficiency measures such as adequate insulation, draught-proofing, energy-efficient appliances and access to rooftop solar where practicable.
3. Support tenants to access energy efficiency upgrades through a combination of low-cost finance, benefit sharing and/or rebates. Existing programs that could be used as guidelines include Victoria's Solar Homes and Solar Savers programs, ARENA'S Energy Upgrade Finance program (currently only available to businesses) or NSW's Bill Busters program.



Group 3. Social Housing

Recommendation

1. All families in social housing have access to homes with energy-efficient air conditioning, solar and insulation.
2. All new social housing should meet a minimum 7-Star energy efficiency rating and have solar installed where possible. All new social housing units should include an energy-efficient heating and cooling system.
3. In the 2023-24 budget, \$300 million was allocated for energy efficiency upgrades in social housing. In order to ensure more residents are safer in heatwaves and extreme weather this fund should be increased to \$1 billion in order to triple the number of homes to be upgraded and have solar installed.



Group 4. Schools and Early Childhood Education and Care Centres

Recommendation

1. All children are protected to learn and thrive in heatwave-safe learning environments, powered by affordable rooftop solar energy.
2. Introduce standards that mandate all new facilities be designed and built to be heatwave-safe for their planned operational life.
3. Where new builds will require air conditioning to be heatwave safe, mandate that they include rooftop solar where practicable.
4. Dedicate funds to upgrade all existing state government-owned schools and Early Childhood Education and Care centres to include solar-powered air conditioning.
5. For non-government schools and Early Childhood Education and Care centres, incentivise building owners to install energy-efficient air conditioning and rooftop solar with means-tested support.

Rising costs robbing families of choice.

After years of enduring hot summers in substandard rental properties, in 2023, Kirsty was finally able to secure a mortgage to buy a two-bedroom unit for herself and her two kids in Reservoir, in Melbourne's northern suburbs.

Kirsty knew the older property would require retrofits to improve its thermal insulation and make it more energy efficient. As a single mum, money was often tight. So Kirsty scrimped and saved. She also planned to take advantage of the City of Darebin's Solar Saver scheme, which was set up to help homeowners with the upfront cost of installing a solar system.

But those plans are now out of reach.

Kirsty's children, aged 7 and 9, both required important health care that depleted her savings and reduced her capacity to work. At the same time, increases in the cost of living have dented her budget.

Now Kirsty is stressed about keeping her family cool in the long hot summer ahead.

"We are so careful with our money, but running the air conditioner this summer just won't be affordable for us."

"The kids always turn the lights off as much as possible, and I'll be shopping at the op-shop for Christmas presents this year. The cost of everything keeps going up, and even small increases create gaps that I struggle to cover."

She says the cost of living has already made it impossible to follow through on the plans she had to make the house more comfortable and cheaper to cool. "Earlier this year I had to choose between getting proper insulation or my daughter's healthcare. Now I'm having to choose between getting help for my son and paying the mortgage and power bills."

"I'm worried about my kids' health during the El Nino summer ahead," Kirsty says.

"I know how big an impact the heat has on children. Last year we were in a rental where the bedrooms were over 30°C on some nights. We tried to keep cool by putting a wet cloth on the fan, but it doesn't really work."

"We do so much already to keep costs down. I'm not sure how many more interest rate rises I can manage without risking the mortgage. I'm worried about ending up back renting again."



"We are so careful with our money, but running the air conditioner this summer just won't be affordable for us."



CONCLUSION

While much of the conversation around climate change rightfully focuses on the potential destruction of whole ecosystems, global warming is now also playing out at the household level: in bedrooms, living rooms, kitchens and classrooms across Australia.

With an issue this big, it can be easy to focus on the macro and overlook what climate change means to the people suffering through the heat—those unable to find respite because cooling is unaffordable or unavailable.

At Parents for Climate, our supporters are the human faces of an angry summer.

Being hot in your home isn't just unpleasant: it can severely impact the physical health of children, affecting their development and future prospects.

Sweltering Cities is working with communities on the front line of rising temperatures.

We all want our children to thrive. And in an increasingly hot world, that means finding respite from the heat.

As Australia increasingly turns its focus from climate change prevention to adaptation, we must ensure that we prioritise the well-being of our most vulnerable by improving the indoor spaces we spend most of our lives inhabiting.

While tentative steps are being made to address the impact of hot homes, broader policy coordination between all levels of government is lacking. And yet the solution is not out of reach.

The pieces are all here. What is required now is the will of governments to act. This report, and the broad policy suggestions it offers, should be seen as a call to action for Canberra to start taking this problem seriously.

Because we can all agree on one thing: homes, classrooms and childcare centres should be places where kids are protected from danger. And one of the biggest dangers to their health and their future is heat.



Parents for Climate is Australia's leading climate advocacy organisation for parents, carers, families and all who care about a safe future for kids. Parents for Climate empowers parents to champion climate action within their communities, the media, business and politicians. Founded in 2019 by six regional, rural and urban mums in four states and territories, Parents for Climate has grown rapidly to fill a critical gap in the climate movement as a parent organisation, run by parents for parents.

parentsforclimate.org



Sweltering Cities is Australia's only national campaign and advocacy organisation working specifically on issues related to extreme heat. Since 2020, it has worked directly with communities in our hottest suburbs to campaign and advocate for more liveable, equitable and sustainable cities.

swelteringcities.org