



Supporting a fair, fast and inclusive energy transition in the ACT

ACT small energy consumers' understanding, planning and support needs

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About ACTCOSS

ACTCOSS acknowledges Canberra has been built on the land of the Ngunnawal people and recognises any other people with connection to the lands of the ACT and region. We pay respects to their Elders past and present and recognise the strength and resilience of Aboriginal and Torres Strait Islander people. We celebrate Aboriginal and Torres Strait Islander cultures and ongoing contributions to the community sector and society.

The ACT Council of Social Service Inc. (ACTCOSS) advocates for social justice in the ACT and represents not-for-profit community organisations.

ACTCOSS is a member of the nationwide COSS Network, made up of each of the state and territory Councils and the national body, the Australian Council of Social Service (ACOSS).

ACTCOSS's vision is for Canberra to be a just, safe and sustainable community in which everyone has the opportunity for self-determination and a fair share of resources and services.

The membership of the Council includes the majority of community-based service providers in the social welfare area, a range of community associations and networks, self-help and consumer groups and interested individuals.

ACTCOSS advises that this document may be publicly distributed, including by placing a copy on our website.

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The views expressed in this document do not necessarily reflect the views of Energy Consumers Australia.



Acronyms

ABS	Australian Bureau of Statistics
ACEEE	American Council for Energy Efficient Economy
ACT	Australian Capital Territory
ACTCOSS	ACT Council of Social Service Inc.
ACOSS	Australian Council of Social Service
ATSIEB	Aboriginal and Torres Strait Islander Elected Body
CO ²	Carbon dioxide
CPI	Consumer Price Index
DER	Distributed Energy Resources
EER	Energy Efficiency Rating
EU	European Union
EV	Electric Vehicle
HEEHRA	High-Efficiency Electric Home Rebate Act
HESP	Home Energy Support Program
IEP	Integrated Energy Plan
kWh	kilowatt hour
LIEEP	Low-Income Energy Efficiency Project
LFiT	Large-scale Feed-in Tariff
PV	Photovoltaics
RMI	Rocky Mountain Institute
SHS	Sustainable Household Scheme
UK	United Kingdom
USA	United States of America
VEEC	Victorian Energy Efficiency Certificate
WAP	Weatherisation Assistance Program



Executive Summary

The ACT Government has committed to reaching net-zero emissions, transitioning away from gas, and electrifying the territory by 2045. ACTCOSS believes this is the right pathway forward to reduce emissions, reduce energy costs, and to improve living standards in the ACT. This report builds on the previous ACTCOSS report: [A Just and Inclusive Gas Transition in the ACT](#) and highlights some of the barriers that vulnerable households face on the pathway to electrification.

A fair and equitable transition

Climate change is a social justice issue, with disadvantaged groups more likely to be negatively impacted. Climate action is also a social justice issue, and we must ensure that a fair and equitable transition for vulnerable households, including renters and those on lower incomes, remains a priority for the ACT Government. If consideration of equity is left until last, there is a risk that the transition away from gas will further entrench disadvantage in the ACT and leave the most vulnerable Canberrans facing higher utilities costs, more health risks and less efficient homes.

The ACT needs fast, fair and inclusive climate action. This will involve extensive consultation with the community to identify and address barriers for vulnerable households. This report aims to highlight the needs of those with the least as the ACT Government continues moving forward with the transition. If we get this right, Canberra will be a fairer and more equitable place for everyone.

Energy hardship

People on low incomes spend a greater proportion of their incomes on essentials, including energy bills. In Canberra, those in the bottom two income quintiles spend 4.0-4.4% of their disposable incomes on energy costs, compared with only 2.2-2.4% for the top two quintiles.¹ Across the country, the number of utilities hardship customers has been increasing, as has the average level of debt incurred and the number of hardship customers holding debt for longer than two years.² This is unsurprising, given that ABS CPI data shows ACT households have seen the price of electricity increase by 28.1% and gas prices by 24% over the last five years.

At present, many Canberrans are experiencing energy hardship, struggling to pay their bills while also living through boiling hot summers and freezing cold winters. This is due to inefficient housing, low incomes, and high energy costs. To compensate, many households reduce their use of heaters and go without food or medication to pay the bills. While most people are feeling the pinch of the cost-of-living crisis right now, low-income households and renters are particularly vulnerable to energy hardship. These households face what is often called the '[poverty](#)

¹ Australian Bureau of Statistics (ABS), 'Table 22.2 Household expenditure: Broad expenditure groups, equivalised disposable household income quintiles, ACT', [Household Expenditure Survey, Australia: Summary of Results, 2015-16](#), ABS website, 2017, accessed 2 May 2022.

² Australian Energy Regulator (AER), [Quarterly retail performance report, October – December 2022](#), Australian Government, March 2023, accessed 10 May 2023.



[premium](#)' as the upfront costs of transitioning from gas to energy efficient appliances and resources such as solar panels and household battery storage systems prevent them from accessing significant long-term energy savings.

Health and well-being impacts

Energy inefficiency, the resulting energy hardship and sacrifices that people make can have significant impacts on physical and mental health. The links between energy insecurity, poverty and adverse health outcomes are well documented.³ Living in homes that are either too hot or too cold can lead to heat stress or hypothermia and can in turn exacerbate existing or chronic conditions. Low quality housing is associated with ill health, including “respiratory infections, asthma, lead poisoning, injuries” and poor mental health.⁴ Forgoing food or medicine also compromises health, and having to make decisions about which things to sacrifice can induce significant stress and mental ill-health.

Living in a house that uses gas also directly affects health and exposes residents to a complex range of pollutants.⁵ Gas appliances in the home, including stoves and heaters, can lead to and/or exacerbate asthma, especially in children.⁶ People on low-incomes or in rental properties are especially at risk as they often cannot afford to have gas appliances replaced or serviced to meet safety requirements. They are also more likely to live in smaller, more crowded homes with limited ventilation.

Transition barriers

The most significant and frequently cited barriers to achieving energy security and making the transition to electric appliances are cost and tenancy. As mentioned, the poverty premium prevents many low-income households from moving away from gas. Upfront transition costs vary depending on appliances that need to be replaced, installation costs and dwelling size. Currently, the level of incentive to transition for people on the margin is extremely low and people are generally unwilling to take on extra financial risk when they already have a low income. For an investment in electrification or energy efficiency measures to be worthwhile for a low income household, any repayments need to be fully offset by savings on energy and usage costs.

Given that approximately 30% of private dwellings in the ACT are rented (51,681 dwellings), there are also significant constraints on resident ability to choose which appliances and which energy sources power their households.⁷ In their report [Cold and Costly](#), Better Renting noted that renter researchers in the ACT recorded

³ S Jessel, S Sawyer, and D Hernandez, ‘Energy, poverty, and health in climate change: A comprehensive review of an emerging literature’ *Frontiers in Public Health*, 2019.

⁴ J Krieger and D Higgins, ‘Housing and Health: Time Again for Public Health Action’, *American Journal of Public Health*, 2022, 92(5):758–768, doi:10.2105/ajph.92.5.758.

⁵ Doctors for the Environment Australia (DEA), ‘[Home gas appliances and your health: Fact sheet](#)’, DEA, 2020, accessed 17 May 2023.

⁶ DEA, ‘[Asthma and Indoor Gas Appliances: Fact Sheet](#)’, DEA, 2022, accessed 17 May 2023.

⁷ ABS ‘[Australian Capital Territory: 2021 Census All persons QuickStats](#)’, ABS website, 2021, accessed 2 May 2022.



average minimum indoor temperatures of 7.4°C in the winter of 2022 – the lowest in the country.⁸

Approximately 20% of private dwellings in the ACT are flats or apartments, which also adds significant complexity to transitioning away from the gas network.⁹ For many people on low incomes, living in rentals or living in apartments, there is no choice but to remain on the gas network without assistance to meet the costs of electrifying their homes. Other barriers identified in this report include a lack of available and accessible information and qualified trades people, issues with supply chains and the specific requirements of retrofitting certain dwellings such as apartments and high-rise buildings.

Our findings

In February and March 2023, ACTCOSS conducted a roundtable with community organisations and two surveys: one for households, and one for small businesses and community organisations. This research was small-scale, with 49 household survey participants, six small business survey participants, and five roundtable participants, including representatives from the Aboriginal and Torres Strait Islander Elected Body, the ACT Government, Care Financial Counselling Service (Care), Conservation Council ACT, and St Vincent de Paul Society (Vinnies). The research therefore cannot be used to glean statistically significant results. However, we were able to draw qualitative insights and themes from our research, which we use to build on the results from the 2022 YourSay Community Panel survey of 1,892 Canberrans.

The themes that emerged from this research included:

- Relatively low awareness of the ACT Government's Integrated Energy Plan and available transition supports
- The need for clear communication on available supports
- The need for sufficiency of and access to supports, including targeted supports for low-income households and renters
- Barriers to electrification
- Availability and skill level of tradespeople

⁸ J Dignam and B Barrett, '[Cold and Costly: Renter Researchers' Experiences of Winter 22](#)', Better Renting, 2022, accessed 17 May 2023.

⁹ ABS, '[Australian Capital Territory: 2021 Census All persons QuickStats](#)', ABS website, 2021, accessed 2 May 2022.



Recommendations

The ACT Government should:

Targeted support

1. Provide and expand targeted financial support to assist low income households to improve energy efficiency and transition from gas to electricity.

Social Housing

2. Conduct a widescale upgrade of all public and social housing dwellings, include draughtproofing, insulation, and electrification.

Private rentals

3. Introduce regulation to prevent new gas appliances from being allowed to be installed in rental properties.
4. Implement stronger tenancy rights regarding modifications, minimum standards, and secure, long-term leases.
5. Expand and strengthen minimum standards by:
 - a. Investigating other performance-based standards like energy star ratings for all builds.
 - b. Having strong, simple recourse mechanisms for non-compliance of standards.
 - c. Monitoring and evaluating the new minimum ceiling insulation policy.
6. Expand the Sustainable Households Scheme (SHS) and the Home Energy Support Program (HESP) to renters. For instance, the schemes could be expanded to allow renters to purchase portable electric stoves, or portable, energy efficient heaters and coolers. This must be done in concert with efforts to incentivise landlords to make energy efficient upgrades to their rental properties.

Targets

7. Consider whether electrification targets would benefit the ACT, such as requiring a specified number of households to be electrified by a certain date, or a percentage of renovations per year. Ensure any targets are stratified along income quintile lines and consider the needs of low income households and renters.

Information and communication

8. Advice programs should include an in-home assessment and tailored cost estimate, to reduce the perception of the financial risk of making energy-efficient investments.
9. Partner with community organisations to provide tailored communication for diverse and vulnerable households.
10. Make information available both online and offline.
11. Consider communicating about the transition through energy bills.
12. Expand the one-stop-shop approach for people to access information required to plan and budget for their transition. Monitor, evaluate and iteratively improve new tools to ensure they are achieving their goals.
13. Investigate how to craft effective campaigns through communications specialists and academic research.

Heating and cooling

14. Consider targeted communications and supports to help vulnerable and low income households replace heating and cooling appliances.



Lack of tradespeople

15. Encourage the uptake of trades and roles associated with electrification.
16. Explore incentivisation schemes for electricians to install energy efficient appliances.

Concessions

17. Urgently review and update the Targeted Assistance Strategy.
18. Expand concessions to meet need by shifting from a fixed-rate to a percentage-based system and by reviewing eligibility to ensure equitable access as outlined in the ACOSS report [Reforming Electricity Concessions to Better Meet Need](#).
19. Explore the automated application of concessions so that everyone who is eligible receives them.

Gas disconnection fees

20. Subsidise the gas abolishment fee for low income households and community housing providers.
21. Consider piloting a street or suburb wide gas disconnection strategy to reduce individual costs.

Evaluation

22. Monitor, evaluate and publicly share outcomes of the transition.



Introduction

The ACT Government has committed to achieving net zero greenhouse gas emissions by 2045. In 2020, the ACT achieved its 100% renewable electricity target through the Large-scale Feed-in Tariff (LFiT) scheme.¹⁰ This leaves fossil fuel gas as one of the largest remaining contributors to ACT greenhouse gas emissions, accounting for an estimated 22% of ACT emissions in 2020.¹¹ The ACT Climate Change Strategy 2019-25 includes a commitment to “develop a plan for achieving zero emissions from gas use by 2045, including setting timeframes with appropriate transition periods for phasing out new and existing gas connections [by 2024]”.¹² It is encouraging to see the ACT Government’s commitment to electrify the ACT. Electrification is the clear pathway moving forward. Electrification involves moving appliances (stoves, heaters and hot water heaters) away from gas to more energy efficient alternatives, as well as adopting electric vehicles (EVs) and installing solar PV and battery storage. The most energy efficient appliances include induction stoves, reverse-cycle air conditioners, heat pump water heaters or solar hot water heaters. Widescale electrification will not only have environmental benefits but will also lower Canberrans’ ongoing energy costs.¹³

Modern electric appliances are more efficient than their gas counterparts, therefore requiring less energy to create the same output. Renewable energy is also now the cheapest form of energy to buy from the grid, and rooftop solar is even cheaper, costing only 3 cents per kWh over its lifetime.¹⁴ With [100% of the ACT’s electricity coming from renewable sources](#) since 2020, Canberra households that fully electrify will source all their energy from renewables and lower their carbon footprint. It should be stressed that electrification is not the only policy to prioritise. Improving energy efficiency ratings of homes through insulation and draughtproofing is equally important.

While the upfront costs of electrification are high, the long-term cost savings are enormous, especially in colder jurisdictions like Canberra.¹⁵ The Climate Council has estimated that Canberrans could save \$1876 per year on average if they replaced their gas appliances with higher-priced electric alternatives.¹⁶ If households replaced their appliances with lower-priced electric options, they could still save \$1561 annually on average. These calculations include the removal of the daily gas supply

¹⁰ ACT Government, [Large-scale feed-in tariffs and reverse auctions](#), Everyday Climate Choices website, 2022, accessed 18 September 2022.

¹¹ ACT Government, [ACT Sustainable Energy Policy 2020-25 Discussion Paper](#) [PDF], Environment, Planning and Sustainable Development Directorate (EPSDD), 2019, p.55, accessed 18 September 2022.

¹² ACT Government, [ACT Climate Change Strategy 2019-25](#), EPSDD, 2019, p.10, accessed 18 September 2022.

¹³ Climate Council, [From fossil fools to clean energy champions: Charting a way out of Australia’s energy crisis](#), Climate Council, 2022, p.6, accessed 3 March 2023.

¹⁴ Rewiring Australia, [Electrify Everything](#), Rewiring Australia website, n.d., accessed 3 March 2023.

¹⁵ C Tidemann, J Rayner and H Cheung, [Switch and save: How gas is costing households](#), Climate Council, 2022, p.ii, accessed 3 March 2023.

¹⁶ C Tidemann, J Rayner and H Cheung, [Switch and save](#), p.11.



fee. The gas supply charge averages \$251.47 annually in Canberra.¹⁷ These savings are likely to increase as the price of gas increases over the next decade and they should not only be awarded to those who can afford to transition without support.

The pathway to electrification is in the early stages, with more details expected to be released as part of the Integrated Energy Plan in 2024 after a mid-2023 draft. We commend the ACT Government's efforts and commitment to a net-zero emissions future but are concerned that the transition could further entrench inequity and disadvantage in the Territory. We hope the insights and recommendations in this report are considered as the Government develops the Integrated Energy Plan and as the gas transition progresses.

This report explores the ACT Government's gas transition plan in relation to vulnerable energy consumers. The Government has confirmed its commitment to ensuring a fair, fast and inclusive transition and sufficiently supporting households with lower incomes, renters, and other potentially vulnerable households.¹⁸ In this paper, ACTCOSS outlines what is at risk if we leave these households until last in the transition process and highlights the specific barriers they face and the support systems the ACT Government needs to implement within the current policy landscape. By prioritising those least able to transition early in the process, we will ensure that no one is left behind.

Based on the latest climate science, ACOSS and members of the broader Australian community sector have called on the Australian Government for bolder action on climate change¹⁹ to be achieved through fair, fast and inclusive measures.²⁰ This report highlights the need for equity to be front and centre of the phasing out of fossil fuel gas and the pathway to electrification. Climate change is a social justice issue. Globally and within our own community, disadvantaged groups, including Aboriginal and/or Torres Strait Islander people, are more likely to be negatively impacted by climate change.²¹ Climate action is also a social justice issue. Climate action through mitigation and adaptation measures must not entrench or exacerbate disadvantage. Instead, climate action should aim to reduce poverty and inequality and improve wellbeing.

This report begins with an outline of key equity issues in achieving a fair, fast and inclusive transition. It then turns to the main barriers preventing vulnerable households from transitioning, followed by a summary of the current programs and supports available in the ACT. Our research, drawn from the surveys and roundtable conducted early in 2023, offers insights from individuals and organisations in the

¹⁷ C Tidemann, J Rayner and H Cheung, *Switch and save*, p.10.

¹⁸ ACT Government, [ACT Pathway to electrification](#), YourSay website, n.d., accessed 25 April 2023.

¹⁹ ACOSS, [Securing fast, fair and inclusive climate action](#), ACOSS website, 2022, accessed 18 September 2022.

²⁰ ACOSS, [Community Sector Climate Change Declaration](#), ACOSS website, 2021, accessed 18 September 2022.

²¹ N Islam and J Winkel, [Climate change and social inequality](#) [PDF], DESA Working Paper No. 152, United Nations Department of Economic and Social Affairs, 2017, accessed 18 September 2022; D Bowles, '[Climate Change and Health Adaptation: Consequences for Indigenous Physical and Mental Health](#)', *Annals of Global Health*, 2015, 81(3):427-31, doi:10.1016/j.aogh.2015.06.004.



community about how to adequately support vulnerable households and organisations to make the transition from gas to electricity. In the last section of the report, we will outline policy recommendations and other solutions that the ACT Government should consider in order to prioritise equity.

Over February and March 2023, ACTCOSS held two surveys, one for households, and the other for small businesses and community organisations (organisations). The households survey received 49 responses, while the organisations survey had six. The surveys used a mix of quantitative and qualitative questions. They were distributed to our member organisations with connections to the community. We did not use random sampling, and therefore our results are not necessarily representative of the whole community. We believe that the responses collected will be useful for informing policy and priorities. In February 2023, ACTCOSS held a roundtable with four member organisations (the Aboriginal and Torres Strait Islander Elected Body, Care, the Conservation Council ACT, and Vinnies) and an ACT Government representative. The purpose of the roundtable was to have an in-depth discussion about vulnerable energy consumers that our member organisations work with, and the implications of the ACT Government's gas transition for them. This was an open discussion with prompts.

We had a range of ages among household survey participants (households) from 18 to 65+, although only two participants (4%) were in the 18-24 bracket. The majority (32 out of 49 or 65%) own their home, while six (12%) were in private rentals and 11 (22.5%) in social housing. Two participants (4%) identified as Aboriginal and/or Torres Strait Islander, and 17 participants (35%) had, or lived with someone with disability or a chronic condition. Ten (20.4%) spoke a language other than English at home and 18 (37%) had care responsibilities. Of the six organisations, one (16.7%) was a small business, the other five (83%) were community organisations. All were renters, half in the private market, the other half through ACT Property Group.

This report will predominantly focus on transitioning households away from gas, and to a lesser extent, small businesses and community organisations. While increasing electric vehicle uptake and electrifying the public transport system are important aspects of reducing emissions in the ACT, they are out of the scope of this report. Large businesses, commercial operations and the industrial sector are also beyond the scope of the report. In addition, solar PV and battery storage are not addressed in depth. We acknowledge that these are important areas for the ACT Government to continue exploring.



A fair, fast and inclusive transition

There is a very real possibility that the ACT's transition away from the use of gas will further exacerbate disadvantage and energy hardship in the Territory. If the ACT fails to address the barriers preventing vulnerable households from transitioning, they will be stuck on an increasingly expensive gas network and face increasing risks to health and wellbeing. These groups include low-income households, renters, people living in social housing, older Canberrans, Aboriginal and Torres Strait Islander people, small businesses, and community organisations.

As the effects of climate change worsen, vulnerable households will face further inequity and disadvantage.²² We know that these households are especially at risk of negative health outcomes due to poorer baseline health, food insecurity and having less adaptive capacity due to financial constraints (such as capacity to use an airconditioned car rather than walk during a heatwave). As has been observed in the USA, climate policies and programs that have treated equity as an afterthought and ignored starting-line disparities have exacerbated health and wealth gaps.²³ Further, a warming planet impacts our ability to heat and cool our homes, increasing energy insecurity, hardship and ill-health in the community.²⁴ Research has shown that addressing inequity can mitigate the impacts of climate change.²⁵ Any action to address climate change should concurrently be aimed at reducing inequity and disadvantage.²⁶

Aboriginal and Torres Strait Islander people and communities have contributed little to climate change but are disproportionately impacted by climate effects. First Nations cultures point the way to humanity living within its ecological limits, and all Australians should look to this wisdom. Nevertheless, Aboriginal and Torres Strait Islander people's health, lands and cultures are well understood in the literature to be at particular risk from climate change. Due to Australia's historic and ongoing colonialism, Aboriginal and Torres Strait Islander people have much poorer baseline health.²⁷ This includes higher rates of medical conditions such as diabetes, heart disease, renal failure, cancer, etc. which make them especially vulnerable to heatwaves. Disruption to ecosystems from climate change also puts further pressure

²² S Friel, '[Climate change will widen the social and health gap](#)', *The Conversation*, 15 August 2014, accessed 3 May 2023.

²³ R Norton, J Lewis, C Klinger and N Goldman, '[Leading with equity and justice in the clean energy transition: getting to the starting line for residential building electrification](#)', Green & Healthy Homes Initiative, 2021, accessed 17 September 2022.

²⁴ S Carley and DM Konisky, 'The justice and equity implications of the clean energy transition', *Nature Energy*, 2020, 5:569-577, doi:10.1038/s41560-020-0641-6, p.572.

²⁵ A Dzebo and Z Shawoo, '[Sustainable development goal interactions through a climate lens: A global analysis](#)', Stockholm Environment Institute, 2023, accessed 5 May 2023.

²⁶ ACTCOSS, '[Submission to Inquiry into Climate Change and Greenhouse Gas Reduction \(Natural Gas Transition\) Amendment Bill 2022](#)', ACTCOSS, 2022, p.5, accessed 6 March 2023.

²⁷ D Bowles, 'Climate Change and Health Adaptation: Consequences for Indigenous Physical and Mental Health'; D Green, U King, J Morrison, '[Disproportionate burdens: the multidimensional impacts of climate change on the health of Indigenous Australians](#)', *The Medical Journal of Australia*, 2009, 190(1):4-5, doi:10.5694/j.1326-5377.2009.tb02250.x.



on Aboriginal and Torres Strait Islander cultures, which are closely entwined with these ecosystems. Australia's colonial history also means Aboriginal and Torres Strait Islander people have fewer economic resources with which to adapt to a changing climate, including by upgrading heating and cooling systems in their homes. Climate change adaptation and transition measures which do not intentionally focus on assisting First Nations people are likely to contribute to the health gap.²⁸

A critical first step is to identify starting-line disparities in terms of those households most at risk of being left behind, what barriers they face, and how these can be addressed as a top priority. Without targeted policies aimed at an equitable transition, people already struggling with energy hardship will experience worsening conditions.²⁹ We have a choice: to either exacerbate inequity and energy insecurity, or work to reduce it.

The ACT Government has committed to a "fair and equitable transition" away from gas.³⁰ They have indicated that lower-income households and renters will be a major focus of their upcoming Integrated Energy Plan (IEP), a draft of which is expected in mid-2023. We urge the Government to prioritise vulnerable households in this plan and to do so by focusing on and listening to the community, including their lived experiences, their needs and their specific energy and climate concerns.³¹ Not only should these groups not be left behind, but they should also be 'early beneficiaries' of the transition.³²

A fair and equitable transition means addressing energy inefficiency, poor-quality housing, and energy hardship.³³ While a critical aim of the gas transition is to reach net-zero emissions in the Territory, this should not be the sole goal. The ACT needs to approach the transition through an equity lens, focusing on liveability, health, and wellbeing. The community should also be rethinking how we conceptualise rental properties and standards.³⁴ This is an opportunity to not only reduce emissions, but also a chance to improve the health, living conditions, and wellbeing of some of the most vulnerable members of our community.

In the ACT context, the energy transition will have significant influence on the achievement of improvements across the 12 domains of the ACT Wellbeing

²⁸ D Bowles, 'Climate Change and Health Adaptation: Consequences for Indigenous Physical and Mental Health'.

²⁹ S Carley and DM Konisky, 'The justice and equity implications of the clean energy transition'.

³⁰ ACT Government, [ACT Pathway to electrification](#), YourSay website, n.d., accessed 25 April 2023.

³¹ P Adey, S Pink, R Raven, P Hadfield, A Badger, Y Strengers, D Sharp, O Bock-Brown, B Lyall, R Martin, S Wright, K Dahlgren, N Robinson, N Hansen and N Willment (P Adey et al.), [Just transitions in Australia: Moving towards low carbon lives across policy, industry and practice](#), Royal Holloway University of London and Monash University, 2022, p.23, accessed 7 March 2023.

³² ACTCOSS, *Submission to Inquiry into Climate Change and Greenhouse Gas Reduction (Natural Gas Transition) Amendment Bill 2022*, p.2.

³³ P Adey et al., *Just transitions in Australia*, pp.38-39.

³⁴ L Daniel, T Moore, E Baker, A Beer, N Willand, R Horne, and C Hamilton, [Warm, cool and energy-affordable housing policy solutions for low-income renter](#), Australian Housing and Urban Research Institute (AHURI), 2020, p.37, accessed 2 March 2023.



Framework. Through the ACT Wellbeing Framework, “the ACT Government and community work in partnership to lift the quality of life of all Canberrans, particularly those with lower wellbeing than average”.³⁵ The positive relationship between energy equity measures and individual and community wellbeing was highlighted in a review of the Australian Government’s Low-Income Energy Efficiency Project (LIEEP) which ran from 2013-2016 and “involved 20 consortia trialling innovative ways of supporting low-income households to reduce their energy consumption and corresponding bills”.³⁶ A fair and equitable transition means ensuring that everyone can access energy efficient technology, regardless of income, home ownership status, race, age, or family makeup. Access is currently unevenly distributed,³⁷ with wealthy households reaping most of the benefit. This needs to change.

Energy hardship

What is energy hardship?

It is estimated that 9% of Canberrans live below the poverty line – approximately 38,000 people, including 9,000 children.³⁸ Low-income households in the ACT have felt the greatest impact of rising energy costs.³⁹ These households spend a significantly higher proportion of their income on gas and electricity. Energy costs are often exacerbated for these households by poor home energy efficiency and lack of access to the benefits of distributed energy resources (DER) such as rooftop solar panels and household battery storage systems. ABS CPI data shows that in the five years between December 2017 to December 2022, ACT households have seen the price of electricity increase by 24.7% compared to 2.3% nationally.⁴⁰ Over the same period, household gas prices in the ACT have increased by 24% compared with 12.7% nationally.⁴¹ Over the past 20 years, electricity prices in Canberra have increased by almost 60%, while gas prices have doubled.⁴² ACT Government

³⁵ ACT Government, [ACT Wellbeing Framework](#), 2022, accessed 18 September 2022.

³⁶ R Bedgood, C O’Mahony, F Pervan and P Buergelt, [Empowering low-income households: delving into the co-benefits identified in the Low Income Energy Efficiency Project Reports](#). Final Report, GEER Australia, Swinburne University of Technology and Charles Darwin University, 2018, p.11, accessed 17 September 2022.

³⁷ P Adey et al., *Just transitions in Australia*; J Nguyen, [The Adoption of Zero-Emissions Vehicles by Low-Income Consumers in California: An outcome evaluation of the clean vehicle rebate project](#), San Jose State University, 2020, accessed 10 April 2023; ACTCOSS, *Submission to Inquiry into Climate Change and Greenhouse Gas Reduction (Natural Gas Transition) Amendment Bill 2022*.

³⁸ ACTCOSS, [2022 ACT Cost of Living Report](#), ACTCOSS, 2022, accessed 17 September 2022.

³⁹ ACTCOSS, *2022 ACT Cost of Living Report*, pp.18-21; see also ACOSS, Brotherhood of St Laurence and ANU Centre for Social Research and Methods, [Energy stressed in Australia](#) [PDF], ACOSS, 2018, accessed 17 September 2022.

⁴⁰ ACTCOSS, [2023 ACT Cost of Living Report: The gendered nature of cost of living for low-income households in Canberra](#), ACTCOSS, 2023, p.12, accessed 3 July 2023.

⁴¹ ACTCOSS, [A Just and Inclusive Gas Transition in the ACT: Prioritising equity on our pathway to Electrification](#), ACTCOSS, 2023, pp.13-14, accessed 1 May 2023.

⁴² ACTCOSS, *A Just and Inclusive Gas Transition in the ACT*, p.15; AER, ‘Figure 6.10: Energy retail price indices (inflation adjusted)’, [State of the Energy Market Report 2021](#), AER, 2021, accessed 12 July 2021.



modelling shows that gas prices are expected to rise by around 19% over the coming seven years.⁴³

Energy hardship occurs when a household struggles to afford the energy they require to live a comfortable life. A mix of inefficient housing,⁴⁴ low incomes, and high energy costs contribute to people's energy stress.⁴⁵ Many Canberrans are currently experiencing energy hardship,⁴⁶ and national trends suggest hardship rates are increasing. There are a range of experiences that constitute "energy hardship". A household may be paying an excessive proportion of their income on energy bills or be unable to pay their bills and fall into debt. They may be going without adequate heating or cooling to reduce energy costs or be cutting out other essentials like food and medication.⁴⁷

Who experiences energy hardship?

While many Canberrans are feeling the pinch of the rising cost of living, low income households and renters are particularly vulnerable to energy hardship.⁴⁸ This is in large part because these groups often live in poor quality, inefficient housing, run cheaper, inefficient appliances,⁴⁹ and have less money to spend. Related factors that affect energy consumption and hardship include location, availability of shade, housing design and efficiency, the building envelope (i.e., walls, doors, roof), and insulation and draught proofness.⁵⁰ Low income households, while spending less overall on energy costs, are spending a much greater proportion of their income on

⁴³ ACT Government, [Powering Canberra: Our Pathway to Electrification](#), ACT Government, 2022, p.14, accessed 1 May 2022.

⁴⁴ Australia has some of the worst performing housing: Climate Council, *From fossil fools to clean energy champions*, p.5.

⁴⁵ S Chandrashekeran, J Cludius, D McConnell, V Noka and D Ritter, [Energy Affordability: Sharing Lessons from the EU and Australia's Low Carbon Transitions](#), The University of Melbourne and Oeko-Insitut, 2022, p.27, accessed 6 March 2023; M Hammerle and PJ Burke, 'Solar PV and energy poverty in Australia's residential sector', *The Australian Journal of Agricultural and Resource Economics*, 2022, 66(4):822-841, doi:10.1111/1467-8489.12487, p.825.

⁴⁶ ACTCOSS, [Submission: Inquiry into Cost of Living Pressures in the ACT](#), ACTCOSS, 2023, p.3, accessed 26 April 2023.

⁴⁷ S Carley and DM Konisky, 'The justice and equity implications of the clean energy transition', p.572; E Liu, B Judd, and M Santamouris, 'Challenges in transitioning to low carbon living for lower income households in Australia', *Advances in Building Energy Research*, 2019, 13(1):49-64, doi:10.1080/17512549.2017.1354780, p.57; Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.36.

⁴⁸ Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.6.

⁴⁹ S Carley and DM Konisky, 'The justice and equity implications of the clean energy transition', p.572; Climate Council, *From fossil fools to clean energy champions*, p.5; Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.8.

⁵⁰ P Adey et al., *Just transitions in Australia*, p.40; Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, pp.17-18.



energy.⁵¹ It costs more, both in terms of energy and money, to heat and cool poor quality housing, and to run inefficient appliances.⁵²

We know that many houses in Canberra are poorly insulated and energy inefficient, and public housing tenants in the ACT rate the energy efficiency and heat/cool comfort of their homes significantly below national averages.⁵³ This is an equity issue. Wealthy households with the resources to pay for retrofits, upgrade appliances, and comfortably heat and cool their homes are minimally impacted by rising energy costs.⁵⁴ Those with fewer resources suffer through the health and financial costs of living in poor quality, inefficient housing.

Health and wellbeing impacts

Energy hardship has consequences for individual health, mental health and wellbeing as well as business and productivity in workplaces. Making sacrifices to be able to pay the bills has an impact on physical health, mental health, and financial stress. Some go without heating or cooling, enduring extreme temperatures throughout summer and winter. Others go without food or medication.⁵⁵ With the prospect of late fees, losing their discount for on-time payment,⁵⁶ the power being shut off, or even eviction if they don't pay their bills or rent, sometimes adequate food is sacrificed. Better Renting has also found that many renters face expensive utility bills, despite trying desperately to modify their usage.⁵⁷ Inefficient housing coupled with inefficient appliances leave people paying more, without seeing any improvement in the comfort or liveability of their homes.

Behaviours designed to affect bill costs and impact household comfort can significantly affect physical health.⁵⁸ An estimated 6.5% of deaths in Australia are attributable to the cold.⁵⁹ In addition, cold homes can exacerbate pre-existing health conditions.⁶⁰ The links between ill-health and poverty also mean that those who are the most unwell are living in the most energy inefficient homes – such as public

⁵¹ L Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, pp 8, 14; ACOSS and Brotherhood of St Laurence, [Energy Stressed in Australia](#), ACOSS and Brotherhood of St Laurence, 2018, p.4, accessed 26 April 2023.

⁵² Climate Council, *From fossil fools to clean energy champions*, p.5.

⁵³ Australian Productivity Commission, [Report on Government Services 2023: Housing](#), Australian Government, 2023, accessed 22 May, 2023.

⁵⁴ P Adey et al., *Just transitions in Australia*, p.40.

⁵⁵ E Liu, B Judd, and M Santamouris, 'Challenges in transitioning to low carbon living for lower income households in Australia', p.57.

⁵⁶ E Liu, B Judd, and M Santamouris, 'Challenges in transitioning to low carbon living for lower income households in Australia', p.57.

⁵⁷ J Dignam and B Barrett, [Cold and costly: Renter Researchers' Experiences of Winter 22](#), Better Renting, 2022, accessed 15 May 2023.

⁵⁸ E Liu, B Judd, and M Santamouris, 'Challenges in transitioning to low carbon living for lower income households in Australia', pp.51-52, 57.

⁵⁹ A Gasparrini et al., 'Mortality risk attributable to high and low ambient temperature: a multicountry observational study', *The Lancet*, 2015, 386(9991):369–375, doi:10.1016/S0140-6736(14)62114-0.

⁶⁰ E Coulter, [This summer it reached 39 degrees inside Charles's rental home](#), ABC News, 8 March 2023, accessed 9 March 2023.



housing.⁶¹ Energy hardship not only jeopardises physical health, it can also have significant repercussions on mental health and stress levels.⁶² Constantly worrying about paying the next bill while sweltering or freezing in what should be a safe and comfortable space, has unsurprising consequences. Parents and carers may be particularly affected, worrying about not being able to provide a safe and healthy environment for their children.⁶³

Gas appliances

The negative impacts of gas on the climate are well documented.⁶⁴ Gas cooking and heating appliances not only harm the environment but can also have significant health implications. One major health risk from using gas in the home is asthma. When someone with asthma is exposed to a “trigger” substance, such as pollen, this will bring on asthma symptoms.⁶⁵ Exposure also increases the chances of a person developing asthma. Triggers vary among people, but can include pollen, physical exercise, and air pollutants released when cooking with gas.⁶⁶ Children, especially young children, are at a much higher risk as they spend more time in the home and are growing and developing.⁶⁷ Research from Knibbs et al. estimated that “12.3% of the total asthma burden in children aged 14 years or under” is due to gas cooking.⁶⁸ In addition, Lin et al. found in their 2013 meta-analysis that children who grow up with a gas stove in their home kitchen “are 42% more likely to experience asthma symptoms and 24% more likely to be diagnosed with asthma”.⁶⁹ While we know that

⁶¹ E Coulter, ‘This summer it reached 39 degrees inside Charles’s rental home’.

⁶² Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.37; E Liu, B Judd, and M Santamouris, ‘Challenges in transitioning to low carbon living for lower income households in Australia’, p.57.

⁶³ Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.37; E Liu, B Judd, and M Santamouris, ‘Challenges in transitioning to low carbon living for lower income households in Australia’, pp.57-58.

⁶⁴ Australian Conservation Foundation (ACF), ‘[Why is gas so bad for the environment?](#)’, ACF website, n.d., accessed 20 May 2023.

⁶⁵ Asthma Australia, [Homes, health and asthma in Australia: Understanding who is at risk of asthma or allergies in their home, what actions people take to protect themselves, and the barriers to action](#), Asthma Australia, 2022, p.8, accessed 16 March 2023.

⁶⁶ Asthma Australia, *Homes, health and asthma in Australia*, pp.14, 19; Victoria State Government Department of Health, [How to avoid your asthma triggers](#), Better Health Channel website, n.d., accessed 26 April 2023.

⁶⁷ H Bambrick, K Charlesworth, S Bradshaw and T Baxter, [Kicking the gas habit: How gas is harming our health](#), Climate Council, 2021, p.22, accessed 3 March 2023; M Vrijheid, ‘Commentary: Gas cooking and child respiratory health—time to identify the culprits?’, *International Journal of Epidemiology*, 2013, 42:1737–1739, doi:10.1093/ije/dyt189, pp.1737-1738; Royal College of Physicians, [Every breath we take: The lifelong impact of air pollution](#), Royal College of Physicians, 2016, p.xii, accessed 26 April 2023.

⁶⁸ LD Knibbs, S Woldeyohannes, GB Marks and CY Cowie (Knibbs et al.), ‘Damp housing, gas stoves, and the burden of childhood asthma in Australia’, *Medical Journal of Australia*, 2018, 208(7):299–302, doi:10.5694/mja17.00469, p.299.

⁶⁹ W Lin, B Brunekreef and U Gehring, ‘Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking on asthma and wheeze in children’, *International Journal of Epidemiology*, 2013, 42(6):1724–1737, doi:10.1093/ije/dyt150, p.1728; in Y Tan and B Jung, [Decarbonising Homes: Improving Health](#)



gas in the home is linked to asthma, for people in low quality housing respiratory problems may also be linked to mould.⁷⁰ This compounds the disadvantage faced by people living in low quality housing.

Another group at higher risk of developing or exacerbating asthma are low income households because they are more likely to live in smaller, overcrowded dwellings with poorer ventilation.⁷¹ This evidence is particularly alarming when looking at the number of Australian households that use gas stoves – 48%.⁷² That proportion is even higher in the ACT, with approximately 56% of households connected to piped gas.⁷³ While rangehoods and exhaust fans can reduce the risk, they do not eliminate it completely and may not be available or routinely used.⁷⁴ Opening windows can also help,⁷⁵ but this measure is often not routinely undertaken during a cold Canberra winter, especially by households experiencing energy insecurity. Additionally, Aboriginal and Torres Strait Islander people are “almost twice as likely as non-Indigenous people to have asthma”.⁷⁶ It is worth investigating whether exposure to gas cooking could be a driver of the gap in asthma rates between Aboriginal and Torres Strait Islander and non-Indigenous people.

For chefs and kitchen staff, another health implication from cooking with gas is the extreme heat conditions they work in, which can affect physical and mental health.⁷⁷ Because gas stoves release a lot of excess heat, they can cause an extremely hot indoor environment. Induction stoves, on the other hand, release minimal excess heat into the environment.

In the ACTCOSS survey, 27 households (55%) relied on gas hot water, 21 (43%) on gas heating and 21 (43%) on gas cooking appliances. Organisations were also more likely to rely on gas for hot water, or to be unsure which source powered their appliances. Seventeen out of 49 households (34.7%) and four out of six organisations (66.7%) had rooftop solar. No household had a solar battery, but one third of participating organisations did.

[in Low-Income Communities through Beneficial Electrification \[PDF\]](#), Rocky Mountain Institute (RMI), 2021, p.17, accessed 25 July 2023.

⁷⁰ Asthma Australia, *Homes, health and asthma in Australia: Understanding who is at risk of asthma or allergies in their home, what actions people take to protect themselves, and the barriers to action*.

⁷¹ A Zota, G Adamkiewicz, JI Levy and JD Spengler, ‘Ventilation in public housing: implications for indoor nitrogen dioxide concentrations’, *Indoor Air*, 2005; 15(6):393-401, doi:10.1111/j.1600-0668.2005.00375.x; Bambrick et al., *Kicking the gas habit: How gas is harming our health*, p.23.

⁷² Asthma Australia, *Homes, health and asthma in Australia*, p.4.

⁷³ C Tidemann, J Rayner and H Cheung, *Switch and save*, p.9.

⁷⁴ Bambrick et al., *Kicking the gas habit*, p.24.

⁷⁵ P Timms and L Thorne, ‘[Health impacts from gas stoves in Australian kitchens under microscope in new study](#)’, ABC News, 17 March 2023, accessed 26 April 2023.

⁷⁶ ABS, [Australian Aboriginal and Torres Strait Islander Health Survey: First Results, Australia, 2012-13](#), ABS website, 2013, accessed 1 May 2023.

⁷⁷ W Bauck, ‘[I use it because it’s better: why chefs are embracing the electric stove](#)’, *The Guardian*, 29 January 2023, accessed 3 March 2023.



What type of appliances do you have at home?

Stove			Heater			Hot water		
Gas	21	43%	Gas	21	43%	Gas	27	55%
Electric	24	49%	Electric	27	55%	Electric	20	41%
Induction	3	6%	Wood	0	0%	Hot water heat pump	1	2%
Don't know	1	2%	Don't know / don't have	1	2%	Don't know	1	2%

What type of appliances does your business or organisation have?

Stove			Heater			Hot water		
Gas	0	0%	Gas	2	33%	Gas	3	50%
Electric	3	50%	Electric	2	33%	Electric	1	17%
Induction	0	0%	Wood	0	0%	Hot water heat pump	0	0%
Don't know	3	50%	Don't know / don't have	2	33%	Don't know	2	33%

Barriers to switching from gas to electricity

Vulnerable Canberrans face numerous barriers when it comes to transitioning away from gas and creating more energy efficient homes. This report will focus primarily on barriers that are relevant to low-income households, private renters, and social housing tenants.

Two of the most cited barriers in the literature and our surveys are cost and tenancy. This was also the case in the 2022 ACT Government's YourSay community survey of 1,892 Canberrans, which found that 60% of people with gas appliances perceived cost as a significant barrier to transition and 37% of respondents did not have much say in which energy sources were used in their household.⁷⁸

⁷⁸ ACT Government, [Gas transition survey final report](#), ACT Government, 2022, pp. 9, 11-12, accessed 17 September 2022.



Of the 49 households that participated in the ACTCOSS survey, only nine (18%) had transitioned at least one gas appliance to electric. For households who had not transitioned any appliances (40, or 82%), some of their top reasons included tenancy, cost, appliance preference, and appliances not needing replacement yet. Other reasons for not transitioning included a lack of time and not knowing enough about the process. One household said the main reason for not transitioning was living in an apartment. One household (2%) said they wanted to switch to a gas stove.

When households were asked more generally about barriers, 22 out of 49 participants (45%) noted cost as a barrier. Other barriers mentioned included the structural barrier of renting, ineligibility for subsidies, lack of knowledge around who to approach for advice, a lack of tradespeople, time, the cost of the gas disconnection and abolishment fees, age, dealing with body corporates, and the cost of new pots and pans. Organisations also mentioned cost, as well as waiting for appliances to need replacing.

What is the main reason you haven't changed your appliances? (households)

I'm a renter	9	18.4%
I haven't thought about it	0	0%
I don't have time	1	2%
I don't know enough about it	2	4%
It's too expensive	8	16%
I prefer what I already have (e.g., a gas stove)	6	12%
My appliances haven't needed replacing	6	12%
Other	8	16%

The current cost-of-living crisis was raised at the roundtable discussion. One participant highlighted that for many people struggling with their costs, electrifying is far down their list of priorities. In the survey, 26 (53%) households reported struggling to pay their bills, eight (16%) were on Australian Government income support payments, and ten (20.4%) were receiving utilities concessions. Half the organisations were also struggling to afford their running costs. One challenge, as one roundtable participant noted, will be bringing the transition front of mind for people who are facing more pressing issues, such as putting food on the table and keeping a roof over the family's heads. Electrification needs to be made more



accessible, simple, and achievable for vulnerable households, and for the community organisations supporting those cohorts.

Cost

“Replacing gas ducted heating with electric would have cost more than four times as much than just replacing the old gas furnace with a new one.”

– *Survey participant*

According to the YourSay survey, the most common gas appliances used in the ACT are water heating (73%), cooktop appliances (66%) and home heating (57%).⁷⁹ The cost to replace a gas hot water system with an electric system could be between \$2,000 and \$6,000, depending on the type of system installed.⁸⁰ Though they are cheaper to install, the daily running costs of a standard electric hot water system are higher than a gas hot water system.⁸¹ In contrast, the initial cost of a hot water heat pump is much higher, but the daily running costs are lower than running a gas system. Lifetime costs of a standard electric hot water system are higher than a gas hot water system.⁸² However, lifetime costs of a hot water heat pump are significantly lower than a gas hot water system.⁸³ This is an example of a situation in which the poverty premium applies – those who cannot afford the higher cost appliance are left paying higher usage costs.

A combined gas cooktop and oven has an electric or induction replacement price of between \$1,700 and \$4,500 installed.⁸⁴ This price does not include a range hood, though that may also need to be installed. Household heating appliances can be the most expensive to replace, depending on the type of appliance installed and the size of the dwelling. To replace ducted gas heating in an average or medium sized dwelling with a single electric reverse cycle wall unit, the cost would be between \$1,500 and \$3,500, depending on the appliance chosen. Replacing gas ducted heating with an electric equivalent would be much more expensive, and could cost upwards of \$15,000, not including installation.⁸⁵

⁷⁹ ACT Government, *Gas transition survey final report*, p.6.

⁸⁰ ACT Government, [Singing in the shower – a guide to hot water heat pumps](#), Everyday Climate Choices website, n.d., accessed 20 May 2023.

⁸¹ Sustainability Victoria, [Compare water heating running costs](#), Sustainability Victoria website, 2022, accessed 28 July 2023.

⁸² ACT Government, *Singing in the shower – a guide to hot water heat pumps*.

⁸³ ACT Government, *Singing in the shower – a guide to hot water heat pumps*.

⁸⁴ ACT Government, [Cooking with electricity – a guide to electric stove tops](#), Everyday Climate Choices website, n.d., accessed 20 May 2023.

⁸⁵ Choice, [How to buy ducted reverse cycle air conditioning](#), Choice website, 2019, accessed 19 May 2023.



Appliance Type	Cost to replace	Yearly saving
Hot water	\$2,000-\$6,000	\$428
Cooking	\$1,700-\$4,500	\$18
Heating	\$1,500-\$15,000	\$1,549
Gas abolishment	\$800	\$350
<i>Total</i>	<i>\$6,000 - \$26,000</i>	<i>\$2,345</i>

Cost is a major barrier to electrification and improved energy efficiency. Electrification, while a cost saver in the long run, can have high upfront costs that cut many people out of the market.⁸⁶ Some support to meet these costs is available through the Home Energy Support Program (HESP) and the Sustainable Household Scheme (SHS). The HESP offers rebates of up to \$2,500 for energy efficient appliances, and \$2,500 for the installation of rooftop solar. Only ACT homeowners who hold a Services Australia Pensioner Concession Card (including the Age Pension, Carer payment, Disability Support Pension, JobSeeker or Youth Allowance, Parenting payment and Veteran payment), Department of Veterans' Affairs Pensioner Concession Card, Department of Veterans' Affairs Gold Card or Australian Government Health Care Card are eligible for this program. Additionally, the unimproved value of the property must be at or below \$750,000 for standalone properties and at or below \$300,000 for units.⁸⁷ The likelihood that people receiving these types of payments own their own home is low (apart from pensioners), which means the eligibility criteria for the HESP excludes many low income households.

There is an option to meet the remaining or other costs through an interest-free loan through the SHS. A ten-year loan of \$15,000 could incur fortnightly repayments of \$60. The 2022 ACTCOSS [Factsheet on Poverty and Inequality in the ACT](#) shows that a low income family in Canberra (with one person on an average wage, and another on minimum wage) has a fortnightly budget surplus of approximately \$18. These households, as well as single parent households and those relying on income support, are unlikely to be able to meet minimum loan repayments through the scheme without cost offsets in their energy bills.

Currently, the level of incentive to transition for people on the margin is extremely low and people are generally unwilling to take on extra financial risk when they

⁸⁶ H Bastian and C Cohn, [Ready to upgrade: Barriers and strategies for residential electrification](#), American Council for an Energy-Efficient Economy, 2022, p.v, accessed 6 March 2023; E Liu, B Judd, and M Santamouris, 'Challenges in transitioning to low carbon living for lower income households in Australia', p.55; ACOSS, [Energy efficiency and people on low incomes: Improving affordability \[PDF 1.93MB\]](#), ACOSS, 2013, p.6, accessed 27 April 2023.

⁸⁷ ACT Government, [Home Energy Support: Rebates for Homeowners](#), Everyday Climate Choices website, 2023, accessed 21 July 2023.



already have a low income. For an investment in electrification or energy efficiency measures to be worthwhile for a low income household, any repayments need to be fully offset by savings on energy and usage costs (noting that the yearly savings are based on averages which are probably higher than costs in low income households which tend to be smaller and less well heated). Based on the figures presented above, electrifying a cooktop will never generate enough savings to pay for itself. Investments in electrification and energy efficiency (like all investments) involve risk, and people in low income households may be reluctant to take on extra risk as they are already budgeting at the margins. The perception that electrification is expensive is a large barrier to transition for low income households. This may suggest that solutions should focus less on increasing financial incentives and more on helping people make fully informed choices, and potentially introducing a mechanism to reduce their investment risks.

In the ACTCOSS survey, only 11 out of 49 households (22.5%) said they would be able to transition off gas in the next 5-15 years without Government assistance. While 23 participants (47%) said that zero-interest loans would make it easier for them to transition, 15 (30.6%) said they would not, and 11 (22.5%) were unsure. One roundtable participant said zero-interest loans were a low cost way to assist people, but other participants commented that for some, zero-interest loans would not be enough; many low income households and renters would not be able to transition without specific rebates and targeted supports. Thirty six survey respondents (73.5%) said they would be more likely to transition with the support of rebates.

“We are middle income earners so probably won't qualify for subsidies, but we have a child with a disability requiring a lot of expensive treatments. All our extra money is spent on this.”

- *Survey participant*

When asked if the ACT Government was providing enough support for people in their position, 23 participants (47%) said they were not, while 11 (22.5%) said they were not sure. Respondents felt that the available supports were not applicable to them, either because they were renters, they lived in apartments or because they were not pensioners so could not access rebates. There were also comments that people on low to middle incomes would struggle to transition without more than an interest-free loan.

Households are not expected to transition all appliances at the same time. Instead, appliances tend to be replaced as and when they reach end of life. Low income households will likely take longer to meet these upfront costs and will face ever-increasing gas network costs in the meantime. These households are also less likely to be able to afford rooftop solar, which would further offset the high costs associated with switching their appliances from gas to solar. Without the capital or sufficient, targeted financial support, many vulnerable Canberrans will be left behind in the transition and will continue to face energy hardship and poor housing conditions.



“I work and hold no concession cards but on an income of \$55,000 I simply cannot afford to upgrade to electric.”

- *Survey participant*

When asked what additional support they would like to see from the ACT Government, subsidies and financial incentives were mentioned most frequently. People also wanted better support for renters, improvements to Government housing, recommendations on which appliances to install and installers to contact, free installation, reduced costs of cancelling gas connections, and better information. Organisations mentioned funding, replacement of appliances in Housing ACT dwellings, and support for people selling and installing gas to move into electrical work.

Tenancy

“Landlords just don’t care.”

- *Survey participant*

Rental properties account for just over 30% of occupied private dwellings in the ACT and it is critical that specific transition barriers posed by tenancy arrangements are addressed early and with sufficient regulation and supports.⁸⁸ Many people on low incomes are also renters and/or live in social housing and face significant cost impacts if they remain stranded on the gas network as prices continue to rise.⁸⁹

The tenant experience is particularly relevant in Australia where we have weak rental rights, low vacancy rates and relatively short-term leases.⁹⁰ When it comes to requesting energy efficiency upgrades from landlords, most are uninterested.⁹¹ In the case where a tenant is able to get permission to install more energy efficient electric appliances, lax tenancy rights and a culture of short-term leases mean there would

⁸⁸ ABS, [Region summary: Australian Capital Territory](#), ABS website, 2021, accessed 3 May 2023.

⁸⁹ E Liu, B Judd, and M Santamouris, ‘Challenges in transitioning to low carbon living for lower income households in Australia’, pp.53, 55; TW Heffernan, EE Heffernan, N Reynolds, WJ Lee and P Cooper, ‘Towards an environmentally sustainable rental housing sector’, *Housing Studies*, 2021, 36(3):397-420, doi:10.1080/02673037.2019.1709626, p.398.

⁹⁰ E Liu, B Judd, and M Santamouris, ‘Challenges in transitioning to low carbon living for lower income households in Australia’, p.54; Heffernan et al., ‘Towards an environmentally sustainable rental housing sector’, p.413.

⁹¹ E Liu and B Judd, [Lower income barriers to low carbon living: Policy pathways to addressing barriers](#), CRC for Low Carbon Living, 2017, p.11, accessed 27 April 2023.



be little guarantee that the tenant could stay in the home long-term to enjoy the benefit.⁹²

Property owners can use the interest-free loans available through the SHS to upgrade rental properties, however they are limited to one \$15,000 loan per household and therefore need to make choices about upgrades to their own home or to an investment property. In a tight rental market, which Canberra and the rest of Australia are currently experiencing, there is little incentive for landlords to make energy efficiency upgrades.⁹³ With high demand and a lack of supply, prices are rising regardless of upgrades and property improvements.⁹⁴ There are therefore few incentives to use available supports to upgrade rental properties; except in the case of ceiling insulation which must be of a certain standard to comply with current rental legislation. Research has shown that landlords are less likely to make energy efficiency upgrades than owner-occupiers.⁹⁵ Likewise, owner-occupiers are seven times more likely to have solar installed at their properties.⁹⁶

“Desperately want to move away from gas but impossible as a renter. Hard enough to get a roof over my head.”

- Survey participant

While minimum energy efficiency standards in relation to ceiling insulation in the ACT are welcome, ACTCOSS and other energy consumer and tenant advocates continue to express the need for more ambitious standards, including for energy efficient electric heating and cooling, and hot water.⁹⁷ The minimum ceiling insulation standard provides no regulatory support for renters to transition from gas to electric appliances, nor does it provide a strong enough compliance mechanism to ensure

⁹² Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.30.

⁹³ Heffernan et al., ‘Towards an environmentally sustainable rental housing sector’, p.402; K Wrigley and RH Crawford, [Bridging the gap: energy efficiency improvements for rental properties](#), Conference: Living and Learning: Research for a Better Built Environment, 2015, p.324, accessed 5 May 2023.

⁹⁴ Heffernan et al., ‘Towards an environmentally sustainable rental housing sector’, p.407.

⁹⁵ W Keady, B Panikkar, IL Nelson and A Zia, ‘Energy justice gaps in renewable energy transition policy initiatives in Vermont’, *Energy Policy*, 2021, 159:112608, doi:10.1016/j.enpol.2021.112608, p.2; M Hammerle and PJ Burke, ‘Solar PV and energy poverty in Australia’s residential sector’, *The Australian Journal of Agricultural and Resource Economics*, 2022, 66(4):822-841, doi:10.1111/1467-8489.12487, p.23; O De Groote, G Pepermans and F Verboven, ‘Heterogeneity in the adoption of photovoltaic systems in Flanders’, *Energy Economics*, 2016, 59:45-57, doi:10.1016/j.eneco.2016.07.008.

⁹⁶ Colmar Brunton Social Research, [Consumer outcomes in the national retail electricity market: Final report \[PDF 3.25MB\]](#), Australian Competition and Consumer Commission, 2018, p.57, accessed 27 April 2023; B Riley, L White, S Quilty, T Longden, N Frank-Jupurrurlaf, S M Nabanungaf and Sally Wilson, ‘Connected: rooftop solar, prepay and reducing energy in security in remote Australia’, *Australian Geographer*, 2022, p.7, doi:10.1080/00049182.2023.2214959.

⁹⁷ ACTCOSS, [Submission: Minimum energy efficiency standards for rental homes in the ACT consultation paper](#), ACTCOSS, 2021, accessed 18 September 2022.



that renters' rights to safe, comfortable and energy efficient homes are being sufficiently met. This is in part due to the power imbalances that exist between landlords and tenants, and a lack of accessible information and advocacy in relation to renters' rights.⁹⁸ Tenants have indicated that they are concerned about asking for changes to the property due to a fear of raised rents or eviction.⁹⁹

Social Housing

As at May 2023, there were 3,146 people on the social housing waitlist in the ACT, with an average wait time of 1,869 days (5.1 years) for standard housing and an average wait time of 259 days for priority housing.¹⁰⁰ There are currently more than 11,000 households in social housing in the ACT, and there is an average turnover time between tenants of approximately 90 days.¹⁰¹

Social housing tenants in the ACT live in some of the least energy efficient homes in the country. In 2021, only 63% of public housing tenants in Canberra rated the temperature comfort of their home as meeting their needs (compared with 73% nationally), and only 60% rated the energy efficiency of their homes as meeting their needs (compared with 77% nationally).¹⁰² These were the lowest rates of satisfaction in the country. Tenants also rated the water efficiency of their bathrooms lower than other jurisdictions, at 86%, compared with 90% nationally. Approximately 27% of ACT social housing tenants were in households that did not meet the 2023 Report on Government Services (RoGS) minimum acceptable standards. Rates of satisfaction with public housing in Canberra are also the lowest in the country at 63%, compared with 72% nationally.¹⁰³ Clearly, public housing dwellings in Canberra are in dire need of an upgrade.

“I have been waiting well over 12 months now for a new cooktop in my ACT Government home.”

- Survey participant

Social housing tenants cannot afford to wait for transition. They are more likely than private renters to live in energy inefficient and climate inappropriate housing, and less likely to have the means to make changes to improve their conditions. These are the households that the community must prioritise on the pathway to electrification. This process should begin with an audit of social housing tenants and

⁹⁸ Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.32.

⁹⁹ Asthma Australia, *Homes, health and asthma in Australia*, p.41.

¹⁰⁰ Housing ACT, [Waitlist and processing times – housing](#), ACT Government, n.d., accessed 31 May 2023

¹⁰¹ Australian Productivity Commission, *Report on Government Services 2023: Housing*.

¹⁰² Australian Productivity Commission, *Report on Government Services 2023: Housing*.

¹⁰³ Australian Productivity Commission, *Report on Government Services 2023: Housing*.



their transition needs. This will allow the ACT Government to appropriately plan the transition of public housing stock in a way that does not unduly impact waiting times or the wellbeing and quality of life of tenants.

Accessible information

Most respondents to the ACTCOSS survey had heard about the ACT Government's plans to transition away from gas. Just over half (57%) thought electrification was important. Community organisations had also heard about the plans to electrify, and believed it was an important transition to make. Even in a sample biased to be interested in the energy transition, almost half of respondents (43%) had not heard of the ACT Government's transition plans. It could be assumed that the rate who have not heard about the ACT Government's transition plans is higher in the general community. This highlights the issue of perception raised above; the cost implications of being stranded on the gas network will not be clear to most people who are not actively engaged in climate change issues.

There were mixed views on when the ACT Government expected households to transition their gas appliances to electric alternatives, and what the potential benefits of transition might be.

When does the ACT Government want households to transition their gas appliances to electric alternatives?

Immediately	4	8%
In the next few years	10	20%
When appliances need to be replaced	14	29%
In the next 5 - 15 years	15	31%
Don't know	15	31%



Awareness of benefits that come from households disconnecting from gas

Cheaper energy bills for your household in the long run	31	63%
Better health outcomes from moving away from a gas stove to an electric/induction stove	17	35%
Potential rebates to help with the transition	14	29%
A lower carbon footprint for your household	32	65%
Other	4	8%
None of the above	8	16%

While there was some understanding of the potential benefits of transitioning, many households and organisations were not aware of the long-term impacts of failing to transition. More than half of survey respondents said they were not aware of long-term impacts such as higher gas prices for those stranded on the network. However, one respondent noted that a rise in fixed charges for gas would be the main motivator for switching away from gas, indicating that this might be a motivating factor for other households if they were aware of the long-term impacts. Only one organisation cited higher gas prices as a long-term impact.

The consensus from the roundtable participants was that the clients they work with were generally unaware of, or were not paying attention to, the ACT Government's gas transition. Many of their clients were more focused on cost of living and housing issues than plans to switch their appliances. Most survey respondents did not know about any financial or other supports available to make the transition from gas to electric sources of power. Two thirds of households were unaware of financial supports offered by the ACT Government and almost three quarters of households had not heard of the non-financial supports available. Of the non-financial supports available, the most well-known were the [Sustainable Home Advice Program](#) and the [Make the Switch](#) resource developed by the Conservation Council ACT.

This indicates that more needs to be done to communicate with community members about how to transition their appliances and where to access the information and supports. For example, one participant thought that transitioning would lead to a higher carbon footprint than staying with gas because most electricity is produced using coal, and coal emits more CO² than gas. This suggests that some in the community are unaware that electricity supplied to the ACT is now fully renewable. The survey also indicated that many people would benefit from information being available in languages other than English.

Communication strategies were also a central theme at the roundtable discussion. Community organisations all acknowledged that communicating to the public about the gas transition, support available, and processes for transitioning were crucial and



are not effective in their current form. Participants highlighted the importance of using community organisations to channel targeted information to the public about available transition supports. Participants also raised that the ACT Government must ensure that Traditional Owners are always consulted on issues playing out on their lands. It is important to ensure that First Nations people are being effectively informed and have opportunities to respond.

Another issue raised was the modes of communication being used to advertise the ACT Government's transition plan. Some community members, such as older Canberrans and people with disability, may not find digital communication methods very accessible. Communication must be available offline as well as online. Information should be available through community organisations, Government organisations, and on energy bills. Providing information on electricity and gas bills was flagged as a potentially highly effective communication method by one roundtable participant. This communication could be regulated by the ACT Government and managed by retailers.

Tradespeople

Some community members were worried about the sometimes conflicting or unreliable advice they receive from tradespeople about switching their appliances from gas to electricity. For example, some people had been advised to install ducted electric heating to replace their ducted gas, which is the most costly and not necessarily most energy efficient option. This may not be the most up-to-date advice for people wishing to electrify. The ACT Government should ensure that tradespeople are giving consumers the most appropriate and accurate advice. ACT residents should also have access to general, standard advice for households aiming to electrify.

Other barriers

For some households, low levels of literacy may create a barrier to finding and understanding the relevant information.¹⁰⁴ Other barriers include information barriers, pride and embarrassment when asking for help, and the inconvenience, difficulty, and time it takes to retrofit. Many people lack reliable, simple information about electrification and energy efficiency.¹⁰⁵ Available information is often complex and can conflict with best practice. For instance, during our roundtable discussion, participants mentioned that consumers had told them that tradespeople had given them unhelpful, inaccurate or conflicting advice on transitioning.

A barrier specific to low income households, older Australians, and people from culturally and linguistically diverse background is pride and shame about asking for

¹⁰⁴ ACOSS, *Energy efficiency and people on low incomes*, p.8.

¹⁰⁵ E Liu, B Judd, and M Santamouris, 'Challenges in transitioning to low carbon living for lower income households in Australia', p.56.



help.¹⁰⁶ Many would rather go without than ask for help. They may avoid seeking out information from community or Government organisations on energy efficiency measures and subsidies. This barrier is particularly pertinent for Aboriginal and Torres Strait Islander people. The historic and ongoing impacts of colonial systems, oppression and racism mean that stigma and shame still prevent many Aboriginal and Torres Strait Islander people from accessing Government supports like energy concessions or raising issues and complaints.

Another issue that should not be overlooked is the inconvenience and hassle of making energy efficiency changes in the home.¹⁰⁷ This was acknowledged in our roundtable discussion. Some people simply don't have the time or cognitive capacity, and others find the process too overwhelming. When a process is clear and straightforward, it is easier for people to act. Because of the numerous players and information channels involved in, for instance, installing solar panels, it is often easier to put it in the "too hard basket". Without a simple, streamlined, step-by-step process, inconvenience will remain a major barrier to everyone who wants to electrify. It should be noted that a lack of interest is not a barrier for many low income households.¹⁰⁸ Many want to live low-carbon lives and reap the benefits of electrification.

Current programs and regulations

General efficiency measures

1. Minimum energy efficiency standards in rentals

As of 1 April 2023, housing providers are now required to have a [minimum level of ceiling insulation](#) in their rental properties. For houses that are currently below an insulation R-value of R2, they will have to instal insulation to meet an R-value of R5.

This is a positive step to improving the state of our rental properties and the thermal comfort level in rentals. Now that the policy has come into effect, there also needs to be clearer avenues for renters to seek compliance from their housing provider. Renters need to know their rights and have a clear, simple process to follow to rectify non-compliance. As we understand it, there is currently no formal process to monitor whether newly advertised rental properties are complying with regulations. While tenants can apply for a rent reduction if the property does not comply with minimum insulation levels, this is a time consuming process and does not guarantee a positive outcome. Many tenants may also fear retribution (leases not being renewed, for example) from landlords or real estate agents if they do complain.

¹⁰⁶ E Liu, B Judd, and M Santamouris, 'Challenges in transitioning to low carbon living for lower income households in Australia', p.56.

¹⁰⁷ Heffernan et al., 'Towards an environmentally sustainable rental housing sector', p.407.

¹⁰⁸ E Liu, B Judd, and M Santamouris, 'Challenges in transitioning to low carbon living for lower income households in Australia', p.54.



2. Home Energy Tune-Up

As part of a ACT Government funded joint project, [Care](#) and [Vinnies](#) are running the [Home Energy Tune-Up](#). Care provides low income households in the ACT with assistance managing their energy bills and usage, including by setting up payment systems and helping them access concessions and rebates. Vinnies assists people to improve the comfort and energy efficiency of their homes through a home energy assessment. They can provide draughtproofing, heating blankets and cooling towels, as well as education about efficient heating levels.

3. Utilities Concession and Utilities Hardship Fund

Eligible recipients can receive a \$750 (with an additional \$50 rebate in the 2022-23 and 2023-24 financial years) [Utilities Concession](#) to assist with energy and other utility bills. The concession is available to Pensioner Concession Card holders, Low Income Health Care Card and Health Care Card holders, Veteran's Affairs Pensioner Concession Card or Gold Card holders, as well as ACT Service Access Card holders, including eligible asylum seekers.

The Utilities Hardship Fund was established during COVID-19 to provide further assistance to low-income households to pay their bills.¹⁰⁹ People experiencing hardship can obtain a \$100 Energy Support Voucher for their energy costs, administered through their retailer. It was originally only available for people with accounts through ActewAGL but now applies to [all energy retailers](#).

4. Chronic Health Conditions Pilot Program

The Chronic Health Conditions Pilot Program offers up to \$10,000 to help Canberrans with chronic health conditions install electric appliances and ceiling insulation in their homes. The pilot will upgrade 20 homes in 2023, with participants identified through referrals from health or low income support not-for-profit organisations. There are plans to expand the program in the future.

Transition specific measures

1. No new gas connections

The ACT Government plans to [ban the creation of new gas connections by November 2023](#), with the enabling legislation passed in June 2023.¹¹⁰ This is an important development in the gas transition. Most (80%) new builds are still being connected to the gas network.¹¹¹ A ban sends a clear message about future expectations and will save households from having to undergo costly retrofitting projects down the line.

¹⁰⁹ Australian Energy Market Commission, [2020 retail energy competition review: Final report](#), Australian Energy Market Commission, 30 June 2020, p 122, accessed 27 April 2023.

¹¹⁰ S Vorrath, '[ACT passes first law in Australia banning gas in new homes, as fossil empire strikes back](#)', *Renew Economy*, 8 June 2023, accessed 21 July 2023.

¹¹¹ EPSDD, [Regulating for the prevention of new fossil-fuel gas network connections: Issues paper](#), ACT Government, 2023, p.6, accessed 27 April 2023.



For more information on ACTCOSS's position, see our [submission: Regulating for the prevention of new fossil fuel gas network connections](#).

2. Sustainable Household Scheme (SHS)

Under the [SHS](#), eligible households and not-for-profit community organisations can access a zero-interest loan to help them invest in energy efficient appliances and infrastructure including ceiling insulation, solar PV, battery storage, EVs and EV charging infrastructure. Loan amounts range between \$2000 and \$15,000. Recipients have 10 years to pay off the loan.

3. Home Energy Support Program (HESP)

The [HESP](#) provides rebates to eligible low income households for the installation of rooftop solar and energy efficient appliances. The rebate can be up to \$5000, \$2500 for rooftop solar, and \$2500 for energy efficient appliances. To be eligible you must be an owner-occupier in the ACT and hold a Pensioner Concession Card or Veterans' Affairs Concession Card or Gold Card, or Commonwealth Health Care Card.

4. Energy Efficiency Improvement Scheme

Through the [Energy Efficiency Improvement Scheme](#), energy retailers are either required to directly support low income household and small-medium businesses to reduce their energy use (Tier 1 retailers; currently only ActewAGL), or to pay into a Government fund that supports energy efficiency policies (Tier 2). A proportion of Tier 1 energy savings must be delivered to priority households. Priority households can include households on certain concession cards, in public housing, accessing financial hardship from energy retailers or utilities concessions from the ACT Government.¹¹² In 2022, the proportion was set at 40%.¹¹³

5. Large-scale insulation upgrade program: Housing ACT

Housing ACT is undertaking an early upgrade program for 100 public housing dwellings in collaboration with ActewAGL. This will involve insulation upgrades of all properties, and the replacement of gas appliances and disconnection from the gas network for some properties.

Over the next 12 months Housing ACT will conduct a Ceiling Insulation and Property Check on all Housing ACT properties. This will help to inform the large-scale insulation upgrade program they will be conducting from now until 2026 to meet the new minimum ceiling insulation standards.

¹¹² M Hammerle and PJ Burke, 'From natural gas to electric appliances: Energy use and emissions implications in Australian homes', *Energy Economics*, 2022, 110:106050, doi:10.1016/j.eneco.2022.106050, pp.1-2.

¹¹³ ACT Government, [Energy Efficiency \(Cost of Living\) Improvements \(Priority Household Target\) Determination 2021: Explanatory Statement](#), ACT Government, 2021, p.2, accessed 27 April 2023.



6. NextGen Storage Program

The [NextGen Storage Program](#) has reached its capacity and there is no indication that it will be resurrected. The program provided rebates to 5,000 households and businesses in the ACT for battery storage.

7. Wood heater replacement program

The [wood heater replacement program](#) provides rebates to household to remove wood heaters (\$250) and install energy efficient reverse-cycle systems (\$750 – \$1,250).

8. Business energy and water program

The [business energy and water program](#) offers rebates of up to \$5000 for small-to-medium businesses to upgrade to more energy and water efficient systems, such as appliances, tapware and toilets, insulation, lighting, and refrigeration. Participants can get 50% of their costs covered, up to \$5000.

Other non-financial assistance

[Home Appliance Savings Calculator](#). Climate Council webtool that allows people to understand the cost benefits of changing appliances to electric.

[Home Energy Assessment Webtool](#). Webtool for renters to improve energy efficiency.

[Make the Switch project](#). Advice from the Conservation Council ACT on electrification.

[Make Your Next Choice Electric](#). Webtool providing advice on the best appliances for different households.

[Renters' Home Energy Program](#). Home assessment through a webtool or independent energy expert.

[Solar for Business Program](#). Advice on rooftop solar and rebates.

[Sustainable Home Advice Program](#). Advice over email or phone and online workshops.

[Your Energy Journey](#). Webtool for households and businesses exploring the electrification pathway.



Current support favours high income earners

The ACT Government has allocated \$200 million over five years for homeowners through the SHS, while only a quarter of that amount – \$50 million over five years – has been allocated to the HESP to support those most at risk of being left behind. This split of funding does not reflect a commitment to prioritise those on low incomes or in vulnerable households. Programs aimed at accelerating the transition process so far have tended to favour higher income households. Low income households will benefit the most from electrifying, in terms of savings and improved wellbeing, but are less able to access public support to transition.

Research on similar rebate and incentive programs in the USA showed that these programs disproportionately favoured those on the highest incomes. For example, by 2015, households in the USA had received \$18 billion in rebates and tax credits for installing solar panels, buying zero emission vehicles and other “clean energy” investments. Only around 10% of these rebates went to low income consumers.¹¹⁴ This grossly disproportionate split was present across all funds targeting clean energy uptake in the USA.

Higher income earners in Australia are also more likely to have solar installed in their homes¹¹⁵ and to own an electric vehicle.¹¹⁶ Modelling commissioned by the ACT Government on the effect of incentives on the uptake of electric vehicles in the ACT found that high income households were far more likely to switch to electric vehicles even without incentives.¹¹⁷ The researchers concluded that “policies that increase the electric vehicle take-up in lower income households are likely to have the greatest effect, and also likely to benefit these households by freeing them from the need to pay for fuel”. The modelling shows that for high income earners, incentives will not “make much difference”.¹¹⁸

The available research suggests there is a need to ensure rebates and financial incentives are targeted to need. This includes ensuring there is a progressive and responsible redistribution of public funds to support a just and inclusive transition – as opposed to a “trickle-down transition” that disproportionately benefits higher income households at significant social cost. ACTCOSS strongly advocates for an expansion of the funding available through the HESP to better reflect a commitment to supporting vulnerable households through the transition.

¹¹⁴ J Nguyen, [The Adoption of Zero-Emissions Vehicles by Low-Income Consumers in California: An outcome evaluation of the clean vehicle rebate project](#), San Jose State University, 2020, accessed 23 August 2022.

¹¹⁵ M Hammer and PJ Burke, ‘Solar PV and energy poverty in Australia's residential sector’, pp.2-3.

¹¹⁶ A Mortimore, S Ratnasiri and S Iftekhar, [Who is buying electric vehicles in Australia? A study of early adopters in Queensland \[PDF 0.7MB\]](#), Griffith Business School, 2021, accessed 3 May 2023.

¹¹⁷ Y Vidyattama, D Sinclair, J Schirmer and R Tanton, [What would it take to get Australians to buy electric cars? Canberra provides a guide](#), *The Conversation*, 8 April 2022, accessed 18 September 2022.

¹¹⁸ Y Vidyattama, D Sinclair, J Schirmer and R Tanton, ‘What would it take to get Australians to buy electric cars? Canberra provides a guide’.



Recommendations

Living standards and wellbeing

The ACT Government's gas transition is aimed at reducing emissions and lowering energy bills. Improving wellbeing should also be a priority. Many Canberrans are living in poor quality housing. They are struggling through cold winters and hot summers due to poor insulation and draughtproofing, and inefficient heating and cooling systems. Coupled with financial stress related to energy bills, many are facing physical and mental health problems as a result.

Targeted support

The ACT Government expressed its intention to begin the transition with the 'low-hanging fruit' and by supporting households that may find it easier to transition.¹¹⁹ This approach will mean a much more difficult problem to address later, as those on low incomes are likely to experience more hardship the longer they are left without targeted and sufficient supports.

The ACT Government must provide targeted support to low income households, including those in social housing and private rental properties. Not only are these groups the least able to transition, but they will also benefit the most from improved energy efficiency and thermal comfort. To make this a fair transition, the ACT Government must provide targeted financial support to people in low income quintiles.¹²⁰ Interest-free loans will not be sufficient.¹²¹ Vulnerable households need free or substantially subsidised assistance to make the switch. It's an investment – a good investment – and will go a long way to improving inequity and poor housing conditions in the ACT.

Social housing

One policy initiative suggested by survey and roundtable participants, and advocates,¹²² is a widescale upgrade of all public and social housing. Like much of the private rental market, the social housing stock in the ACT and across the country

¹¹⁹ ACT Government, *Powering Canberra: Our Pathway to Electrification*, p.6.

¹²⁰ For an explanation of quintiles see [wealth quintiles](#).

¹²¹ W Keady et al., 'Energy justice gaps in renewable energy transition policy initiatives in Vermont'; Climate Council, *Briefing Paper: How government can reduce concessional finance to reduce emissions*, *Climate Council*, 2022, p.11, accessed 6 March 2023.

¹²² Climate Council, *Briefing Paper*, p.13; B Kolovos, '[Solar panels could be a lifesaver for public housing tenants grappling with Australia's soaring energy costs](#)', *The Guardian*, 3 April 2023, accessed 1 May 2023; REMOURBAN, *Retrofit Social Housing Report– Better Homes Improve Lives*, REMOURBAN, 2020, accessed 1 May 2023.



is in a dire state.¹²³ We need more investment in energy efficiency and electrification in social housing dwellings, both to address energy costs and thermal discomfort. ACTCOSS also strongly recommends the installation of solar panels on all social housing properties to reduce energy costs for tenants.

Housing ACT is currently running an upgrade pilot to improve ceiling insulation and energy efficiency in public housing to comply with the new minimum ceiling insulation requirements in the ACT.¹²⁴ This program should be expanded. It should be extended to all community housing in the ACT, include energy efficient retrofitting, stronger insulation requirements and draughtproofing, as well as solar PV and battery storage.¹²⁵ A widescale rollout could benefit from bulk purchasing of electric appliances.¹²⁶

Private rentals

Transitioning rental properties away from gas will be one of the biggest challenges the ACT Government faces, along with complex builds like apartments, and hard to transition industries. There is no simple, single solution to electrify and improve energy efficiency in the rental stock; it will require a range of measures.

We need to reimagine how we think about property ownership. At present, property is viewed as a commodity in Australia,¹²⁷ and the purchasing of property as an investment. Housing providers should instead be first and foremost concerned with providing shelter and wellbeing. Landlords should be held to a higher standard and the needs of the persons living in their property should be a priority.

It is encouraging to see the ACT Government take significant steps towards improving rental rights in the ACT through recent legislation, especially [the removal of no-cause evictions and end-of-lease termination without cause](#). While more needs to be done, the Government's efforts should be commended, along with the efforts of advocates who have campaigned for these changes for many years.

However, tenancy rights in the ACT and Australia still fall well behind the likes of other jurisdictions internationally. Much of Canberra's rental stock is of poor quality, with minimal or no insulation, and have issues with mould and pests. Rental prices are skyrocketing, repairs are difficult to organise, and short-term leases are common. For many young Australians, purchasing a home of their own within their lifetime is out of reach. In contrast, in Germany for example, renting is a plausible and common long-term housing option and longer-term leases are the norm. Renting should be a viable and sustainable long-term housing option.

¹²³ AHURI, [New social housing will be more energy efficient, but older houses are still costing us dearly](#), AHURI, 2023, accessed 1 May 2023; AIHW, [National Social Housing Survey 2018: Key results](#), AIHW, 2019, p.17, accessed 1 May 2023.

¹²⁴ See [large-scale insulation upgrade program: Housing ACT](#).

¹²⁵ For more information on how solar PV could [positively impact low-income households](#).

¹²⁶ Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.6.

¹²⁷ Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.3.



ACTCOSS would like to see stronger tenancy rights regarding modifications, minimum standards, and more secure leases. One roundtable participant mentioned that some renters may be willing to pay for some of the upfront cost of changing appliances but are hesitant due to short-term leases. We also want to see clear compliance and recourse measures in place where standards are not met, and effective education campaigns so that renters are aware of their rights. It may also be worthwhile to assess the cap on rent increases in the ACT and whether it is achieving the stated aims. Where rental standards are improved, there needs to be attention paid to how these will affect rental price increases, and whether current rent increase regulation and recourse mechanisms are enough. It is beyond the scope of this report to investigate rental regulations in detail, but they are crucial in this area of policy.

ACTCOSS suggests that the ACT Government further explore how landlords could be incentivised to electrify their rental properties. An option could be to provide a subsidy for owners of fully electric properties who rent to tenants in the bottom income quintile. Alternatively, privately rented properties could also be made eligible for the SHS if the cost of the rent is in the bottom 10% of rented properties in ACT.

ACTCOSS strongly recommends that the ACT Government introduce regulation to prevent landlords from replacing or installing any gas appliances in rental properties by a target date, such as 30 June 2024.

Minimum energy efficiency standards

There is strong and understandable scepticism about the effectiveness of voluntary energy efficiency or electrification options for landlords. In the Australian context, most private landlords intend to make money, not to altruistically provide people with a safe, energy efficient place to live.¹²⁸ Panel members in a study by Daniel et al. agreed that mandatory minimum standards with compliance measures were crucial to get landlords to act.¹²⁹ Taking a minimum standards approach signals to investors and consumers what basic, sustainable housing quality looks like. The ACT Government has taken this approach for minimum ceiling insulation standards. ACTCOSS wants to see minimum standards expanded and strengthened by:

- Monitoring and evaluating the new minimum ceiling insulation policy. This will be valuable not only for ACT policy moving forward, but also to assist other jurisdictions as they follow suit. Any monitoring and evaluation should be made public and help inform the roll out of requirements for the transition away from gas.

¹²⁸ Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.36.

¹²⁹ Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.40.



- Preventing the installation or replacement of gas appliances. Much like the no new connections legislation, regulation preventing people from replacing appliances with gas-run appliances will help to shift behaviour and expectations. It will ensure that when appliances do need to be replaced, they are not simply replaced with the same inefficient appliance, when electric and more efficient alternatives are available.¹³⁰
- Investigating other performance-based standards, like energy star ratings for all builds, not just new builds.
- Having strong, simple compliance mechanisms.

The ACT has had energy efficiency rating (EER) disclosure requirements for rental properties since 1997.¹³¹ When advertising a rental property, either the EER, or a statement saying no EER exists, must be displayed.¹³² Unfortunately, most rental properties do not display an EER. A 2018 survey by Better Renting found approximately two thirds of rental property advertisements did not display an EER, either because they didn't have one or they wanted to hide a low score.¹³³ Enforcement is also effectively non-existent, with academics calling it a “de facto voluntary” system.¹³⁴

New disclosure requirements came into effect in conjunction with the new minimum ceiling insulation requirements. Landlords are now required to disclose whether their property complies with minimum insulation standards when they advertise a property and when they enter a lease.¹³⁵ One way to show compliance is with an EER, but there are also other compliance options. In a tight rental market, there is no need for landlords to compete when it comes to energy efficiency. Renters generally must take what they can get, regardless of a property's energy efficiency.¹³⁶ EER disclosure requirements alone are highly unlikely to improve standards for renters in the current rental landscape.

ACTCOSS suggests the ACT Government could explore introducing reforms to enable EER disclosure requirements to be enforced or incentivised and to incentivise higher energy efficiency standards. For example, if a rental provider is not meeting a certain standard, they could be required to pay higher rates to offset the costs that energy inefficient property imposes on the community. This would put the onus of responsibility on the property owner to provide a rental that meets the standards.

¹³⁰ C Tidemann, J Rayner and H Cheung, *Switch and save*, p.24.

¹³¹ J Dignam, '[ACT energy-efficiency ratings are a dog's breakfast](#)', *The Canberra Times*, 17 July 2018, accessed 2 May 2023.

¹³² ACT Government, '[Residential Tenancies Act 1997](#)', ACT Government, 2023, s.11A, accessed 3 May 2023.

¹³³ J Dignam, '[ACT energy-efficiency ratings are a dog's breakfast](#)'.

¹³⁴ J Dignam, '[ACT energy-efficiency ratings are a dog's breakfast](#)'.

¹³⁵ ACT Government, '[Minimum energy efficiency standards for rental homes](#)', ACT Government website, n.d., accessed 2 May 2023.

¹³⁶ Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.5.



Sustainable Households Scheme (SHS)

As mentioned above, one program run in the ACT to encourage electrification is the SHS. The scheme provides interest free loans to households and community organisations up to \$15,000, to be paid off over 10 years. Renters can use the scheme only for EV purchases, and even this is substantially limited by the requirement for home-based infrastructure for EVs which are not widespread. All other products can only be used by homeowners.

ACTCOSS recommends that the ACT Government expand the program to include renters. Given that renters currently have limited or no agency to transition their home away from gas, one workaround mentioned in our roundtable was the option of buying portable appliances. For instance, the SHS could be used for purchasing portable electric stoves, or portable, energy efficient heaters or coolers, or electric bikes. A resource such as an electric bicycle will work to lower emissions in the community and is accessible at a much lower price point than an electric car and requires much less complex charging infrastructure. Expansion of the SHS to electric bicycles would also contribute to the ACT's active travel goals.

Targets

The ACT Government should consider electrification targets for residential and business gas connections. These should include ambitious targets for social housing, and for households in low income quintiles. Otherwise, there is a risk that targets would be largely met by wealthy households, leading to masking and exacerbation of inequity. For an example of a target-based approach, see the EU's aim of doubling the "[annual energy renovation rate](#)" by 2030 from about 1% to 2% per year. Advocates say this needs to be more ambitious and reach 3% by 2030.¹³⁷

Information and communication

Lack of information was identified as a significant barrier to electrification by our roundtable participants, survey participants, and the literature. Information barriers range from a lack of knowledge about why we should be electrifying (including health issues), to what electrification looks like, the supports available, how to improve energy efficiency, rental rights, who to seek advice from, what to buy, and how much it will cost. Part of the issue is around access to information, part is knowing where to look, part is the complexity of the process, and part is jargon laden, text heavy messaging.

¹³⁷ Allianz Research, [The great green renovation: The buildings sector transition pathway](#), Allianz, 2022, p.2, accessed 3 May 2023; H Sibileau, R Broer, L Dravecký, M Fabbri, XF Álvarez, J Kockat and I Jankovic, [Deep renovation: Shifting from exception to standard practice in EU policy](#), Buildings Performance Institute Europe, 2021, p.4, accessed 3 May 2023.



A cohort of low income and/or older Australians lack access to computers and/or the internet.¹³⁸ These groups miss out on accessing information that others have at their fingertips. The ACT should not have an online-only information stream. It must be multi-modal, using different platforms to reach different audiences. Information channels suggested by roundtable participants included providing information on energy bills and providing leaflets at community organisations and facilities like libraries, and other places frequented by these community cohorts and where trust has already been built.¹³⁹ It will not only mean people are more likely to receive the information, but they are also more likely to seek help from trusted sources and overcome potential social barriers.

ACTCOSS recommends that the ACT Government partner with organisations linked to the consumers they are trying to reach. There are many different groups working in the housing space including with low income households and renters. These include community organisations and energy retailers. These could all be possible conduits for information and advice, given their firsthand knowledge and links to people in the community. These partnerships could also involve supporting creative communications projects. One example is the Conservation Council ACT's recent initiative on [induction stove education](#). For instance, the [Renewable Energy Innovation Fund](#) could be expanded to include creative communications projects to promote, encourage and assist people to transition. Any information and communication campaigns developed by the ACT Government also need to use specific culturally appropriate methods and considerations for First Nations people as a priority.

[The American Council for Energy-Efficient Economy \(ACEEE\)](#) and [RMI](#) both suggest a one-stop-shop model for information access.¹⁴⁰ By having all the information, support, and steps laid out in one source, the whole electrification and energy efficiency process would be much simpler. While households and businesses may need to access support through multiple programs and use different contractors for different retrofits, they could understand the whole process and know who to contact from a single source point. It is exciting to see the ACT Government taking steps in this direction through the [Brighte](#) portal. Through [Brighte](#), ACT residents can select an upgrade they are interested in and their suburb, and then be directed to a list of vendors who are part of the Government's Sustainable Households Scheme.

The ACT Government also announced a partnership with CHOICE in April 2023 to help Canberrans access free, independent advice on making their “next choice electric”.¹⁴¹ The tool asks residents about the type of house they live in, their current appliances, and other information, and then provides information on their potential cost savings, alternative products, and support available. Participants can download

¹³⁸ E Liu, B Judd, and M Santamouris, 'Challenges in transitioning to low carbon living for lower income households in Australia', pp.56, 58.

¹³⁹ E Liu, B Judd, and M Santamouris, 'Challenges in transitioning to low carbon living for lower income households in Australia', p.59.

¹⁴⁰ H Bastian and C Cohn, *Ready to upgrade*, p.30.

¹⁴¹ S Rattenbury, [Australian first partnership helps Canberrans make their next choice electric](#) [media release], ACT Government, 19 April 2023, accessed 3 May 2023.



a copy of their results. While this tool looks promising, it should be evaluated and iterated on as more people start using it to ensure it is achieving its goals.

ACTCOSS notes that there is a range of energy efficiency and gas transition advice programs currently offered by the ACT Government. The [Renters' Home Energy Program](#) provides renters with a self-assessment webtool, or free assistance with an energy assessment over the phone or in the home. The [Home Energy Efficiency Program](#) (also known as the [Home Energy Tune Up](#)) provides free advice to eligible low income households and free drought sealing services in the home. The [Sustainable Home Advice Program](#) provides free advice to ACT residents via phone, email, self-assessment webtool and workshops. These kinds of programs are valuable tools for the community and demonstrate a strong commitment to access to information for people interested in energy efficiency or seeking to transition. ACTCOSS recommends that the ACT Government better publicise and expand on these kinds of programs and tools. For programs aimed at renters and low income households, the access to in-home advice and services is invaluable and any assessments or advice should include cost estimates (including transition costs and savings and lifetime costs and savings). The Sustainable Home Advice Program (or any other advice programs aimed at owners) should be expanded to include an in-home assessment with an energy expert so the household receives a tailored and independent cost estimate of their desired upgrades. This would help reduce the perceived level of financial risk, enabling more low-income households to make energy-efficient investments.

The energy efficiency and electrification process is complex and often made harder by jargon laden and text heavy information sources.¹⁴² To be more accessible, information and advice should be presented in simple language with infographics to assist. Information on the transition should also be provided in a range of languages. When designing messaging and information targeting strategies, the ACT Government should investigate how to craft effective campaigns through communications specialists and academic research. The ACT Government should also investigate behavioural economics research as a potential avenue for increasing electrification uptake. This was mentioned in our roundtable as an important area of research being undertaken, especially in the UK.

The ACT Government should implement a targeted communications strategy to reach First Nations communities. It will be crucial to consult with a broad range of Aboriginal and Torres Strait Islander community members and stakeholders, including Traditional Owners and members of the Aboriginal and Torres Strait Islander Elected Body (ATSIEB).

¹⁴² E Liu, B Judd, and M Santamouris, 'Challenges in transitioning to low carbon living for lower income households in Australia', pp.56, 58.



Heating and cooling

Different appliances require different amounts of energy to run. The top energy use for Canberra households is heating and cooling. On average, 62% of Canberra household energy use is for heating and cooling.¹⁴³ The second highest energy use is for water heating at 16%, then electrical appliances at 15% (e.g., fridges and televisions). Lighting and cooking use only account for 4% and 3% of energy use respectively.

Installing insulation in energy inefficient homes is an important priority and will have the biggest impact on thermal comfort. Once this is done, research suggests that replacing heating and cooling systems with electric and efficient appliances leads to the most energy saving and the biggest cost savings.¹⁴⁴ While other appliances need to be part of the gas transition, reverse-cycle air conditioners should be prioritised for upgrades, rebates and targeted assistance programs. Solar installation and window retrofitting are also big savers.¹⁴⁵

Lack of tradespeople

There is significant concern in the community that the [ACT does not have enough tradespeople](#) with the knowledge and skills in electrification to satisfy future need.¹⁴⁶ Providing additional training to existing contractors on the installation and maintenance of electric appliances, solar PV and battery storage has been suggested as one solution to the deficit.¹⁴⁷ The ACT Government should explore incentivisation schemes for electricians to install more energy efficient appliances.

Concessions

While this report predominantly focusses on ensuring vulnerable households are brought along for the transition, this must not distract from the fact that many Canberrans are struggling to pay their bills and will continue to into the future. This will be especially important as the transition progresses and those left stranded on the gas network are forced to pay increasing prices. In addition to energy efficiency and electrification policy changes, the ACT Government should review and update

¹⁴³ ActewAGL, [What uses the most energy in your home?](#), ActewAGL website, n.d., accessed 3 May 2023.

¹⁴⁴ Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.21.

¹⁴⁵ Daniel et al., *Warm, cool and energy-affordable housing policy solutions for low-income renter*, p.19.

¹⁴⁶ ACTCOSS, Gas Transition Survey and Roundtable, February 2023.

¹⁴⁷ A Crowe, [‘ACT Government opens public consultation on plan to ban new gas connections’](#), *The Canberra Times*, 3 March 2023, accessed 3 March 2023.



their Targeted Assistance Strategy.¹⁴⁸ We also urge the ACT Government to raise concessions in line with rising energy prices and consider changing concessions from a fixed rate system to a needs-based system to give people with greater need more financial assistance than those with lesser need.¹⁴⁹

Regarding the Energy Support Vouchers, given out by energy retailers under the Utilities Hardship Fund, the ACT Government should consider administering it through the community sector instead of energy retailers. Not-for-profit organisations would be better positioned to identify potential recipients and are better placed to follow up with anyone who is provided a voucher.

Gas disconnection fees

One barrier to full electrification is the gas disconnection fee. Once a household has transitioned all their appliances away from gas, they still must pay for the gas connection. This is an expensive operation. In the long run, however, it is a cost saver, given that the household will no longer need to pay daily supply charges.

In the ACT, a permanent gas connection abolishment costs [approximately \\$750-\\$800](#), depending on the retailer. It involves removing the meter and gas pipes under the ground, making it labour intensive.¹⁵⁰ Temporary disconnection is a cheaper option ([around \\$140](#)) and involves capping the meter. However, according to Evoenergy, a temporary disconnection may lead to a safety hazard. After the meter is capped, pressurised gas will continue to flow from the main street to the house. If the pipes are forgotten, someone could, for instance, burst a pipe while gardening.

Due to economies of scale, disconnecting a whole street or a whole suburb in one go will be a lot cheaper for the energy company and customers. This is something Evoenergy is exploring, and something the ACT Government should consider as it plans for the next decade or so in the transition. For households who have chosen to temporarily disconnect first, they could later permanently disconnect at the same time as their street or suburb. The ACT Government should also explore subsidising the disconnection fee for low income homeowners and community housing providers.

¹⁴⁸ ACTCOSS, *Submission to Inquiry into Climate Change and Greenhouse Gas Reduction (Natural Gas Transition) Amendment Bill 2022*, p.4.

¹⁴⁹ D Lombard, K Caught and R Law, [Reforming electricity concessions to better meet need: Summary report](#), SACOSS and ACOSS, 2022, accessed 5 May 2023.

¹⁵⁰ M Perkins, [‘Would you pay \\$1000 to get off gas? Consumer dismay over disconnection cost’](#), *The Sydney Morning Herald*, 23 February 2023, 3 May 2023.



Programs and initiatives in other jurisdictions

There are many case studies we could look at to understand what other jurisdictions both in Australia and abroad are doing. Here, we detail five programs in Victoria, the UK, and the USA, and provide a list of other programs of note.

Victoria: Home heating and cooling upgrades

Victoria has implemented several energy efficiency schemes over the years, one of which is aimed at low income and vulnerable households to [improve their heating and cooling systems](#). Eligible households can receive a \$1000 rebate for installing a reverse cycle air conditioner, the most energy efficient heating and cooling appliance. What is of note for this program, is that renters are eligible if they get permission from their housing provider. Owner occupiers, landlords, and community housing providers are also eligible. In addition, eligibility is not solely based on whether someone is a concession card holder. It is also open to households earning less than \$90,000, landlords who charge less than \$500 a week in rent, or who are renting to a household that earns less than \$90,000 a year. The use of multi-eligibility is something the ACT Government should consider when developing subsidies for low income households. This could be an especially valuable approach when creating programs that work for renters.

Victoria: Victorian Energy Upgrades

[Victorian Energy Upgrades](#) is a much more wide-reaching program, available to all Victorian households for a huge range of energy efficient appliances, including air conditioning, hot water heaters, insulation, weatherisation, window glazing, lighting, and shower heads. It expects to cut emissions by 7% by 2025 and save consumers \$3.8 billion.¹⁵¹ The scheme goes by address, allowing each household to access a rebate for each category once. Unfortunately, the program still allows the installation of gas appliances. The number of different types of products that people can choose from is also confusing and fails to send consumers a clear, simple message about what the best, most energy efficient products are. There are also different rebates depending on the product they choose. The website also doesn't explicitly state how renters can be involved. Another element of the scheme is the use of a certificate system for accredited entities. After completing an eligible activity (e.g., installing an energy efficient appliance), they can create a [Victorian energy efficiency certificate](#) (VEEC). A VEEC can then be transferred to a buyer such as an energy retailer. This creates a trading and incentivisation system to increase electrification uptake.

United States: High-Efficiency Electric Home Rebate Act (HEEHRA)

The passing of the [Inflation Reduction Act in 2022](#) funnelled a lot of funding into energy efficiency and electrification upgrades for households in the USA. The [HEEHRA](#) program provides low and moderate income households with [point-of-sale rebates](#) to install energy efficient electrical appliances. Each appliance type has a different rebate, and the maximum total rebate amount a household can receive is \$14,000USD. Households are eligible for different amounts of funding depending on their income. For those with an income between 80% and 150% of the area median income, they can receive a 50% rebate on appliances. For those with an income of 80% or less of the area median income, they can receive a 100% rebate. Appliances included in the scheme

¹⁵¹ Energy, Environment and Climate Action, [About the VEU program: Save energy and money by installing discounted energy-efficient products](#), Victorian Government, n.d., accessed 3 May 2023.



include heat pump air conditioners, heat pump water heaters, stoves, clothes dryers, insulation, and draught sealing measures.

United States: Weatherisation Assistance Program (WAP)

The Inflation Reduction Act included a [boost to the WAP of \\$3.1 billion](#). The program is specifically aimed at low income households to reduce their ongoing energy costs, improve energy efficiency, and improve health and safety.¹⁵² It is especially focussed on low income households with additional vulnerabilities, including older age, disability, and children.¹⁵³ This program assists approximately 35,000 homes each year with weatherisation projects. It has been a long running program in the US since 1976 and [has helped around 7 million households](#) in that time. The program provides [whole of house weatherisation](#), starting with an audit, and providing different measures depending on the circumstances, including sealing, insulation, window replacement or fixing, lighting, and repairing heating system.

United Kingdom: Decent Homes Programme (2000–2010)

In 2000, the UK started a program of upgrading social housing properties with the aim that all properties would reach the “decent homes standard” by 2010. The standard was updated in 2006. Local councils had to assess, modify and in some cases, replace, social housing to meet the decent homes standard. [The standard included 4 criteria](#) including meeting the current statutory minimum standard for housing, being in a reasonable state of repair, having reasonably modern facilities and services, and providing a reasonable degree of thermal comfort. While this was not specifically aimed at energy efficiency and electrification, it is an example of a widespread upgrade of social housing stock, something that the ACT Government should consider.

Other programs of note

NSW: [Rebate swap for energy upgrades or solar](#).

EU: [Renovation Wave](#).

USA: [HOMES](#).

USA: [IRA tax credits](#).

¹⁵² Office of State and Community Energy Programs, [About the Weatherization Assistance Program](#), United States Energy Department, n.d., accessed 3 May 2023.

¹⁵³ Office of State and Community Energy Programs, [About the Weatherization Assistance Program](#).

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