



Funding and Financing Energy Performance and Climate-Resilient Retrofits for Low-income Housing

Australian Council of Social Service
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Fair, Fast
and Inclusive

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Summary on a page

- This report presents funding and finance options to support the roll out of rapid and substantial energy performance (thermal efficiency, efficient electric appliances, and on-site renewables) and climate-resilience retrofits, to low-income housing (Public housing, community housing, First Nations community-controlled housing, private rental properties, and owner-occupier homes).
- The report is informed by a series of workshops held in 2023 and subsequent consultations with experts across government, housing, property, energy, finance, climate change and community sectors.
- Home retrofits result in multiple benefits to governments, people, and communities. They provide a low-cost mechanism to achieve Australia's emissions reduction targets; create homes that are affordable to run, healthy, safe and climate resilient; help reduce cost of living pressures; create jobs; and improve energy security and reliability.
- Prioritising low-income housing derives additional benefits. These include reducing financial hardship, poverty, and inequality; and providing savings to governments across a range of portfolios.
- With roughly 8 million homes, including approximately 1.8 million low-income households, requiring some level of retrofit before 2035 to achieve emissions reduction and climate-resilience goals, the task requires significant government and market support.
- Unique financial barriers to retrofitting low-income housing are identified and thirteen solutions to enable and prioritise substantial retrofits are examined. Up-front costs, overall cost, split incentives, and ownership type were key financial barriers identified. Targeted, tailored, and equitable funding and finance solutions are required. Government investment will be necessary.
- There is consensus that government supported funding and financing of low-income housing, with rapid rollout to all public, community housing, and First Nations community-controlled housing should be prioritised. Direct government support would build economies of scale and market capacity, reducing the costs for all housing retrofits, while reducing poverty and inequality. Seven funding and finance solutions are recommended, including:
 - Establishing a Special Purpose Funding Vehicle, with an initial Federal Government injection of \$2 billion, topped up by other sources, to invest in deep and rapid energy performance and climate-resilience retrofit programs, tailored across low-income housing tenure types.
 - Building on the existing \$300 million social housing retrofit funds, establish a 7-year program to fund energy performance and climate-resilience retrofits to **all** public housing, community housing and First Nations community-controlled housing.
 - Establish and fund a form of Environmental Upgrade Finance (EUF) program to be delivered by local councils to retrofit owner-occupier and private rental retrofits.
 - Until EUFs are in place, establish and fund a program, delivered via one-stop-shops, to provide zero-interest loans and subsidies for low-income owner-occupiers, and low-interest loans and conditional subsidies to landlords for private rental properties (along with minimum energy performance and climate resilience rental standards).
- There is also consensus that a range of non-financial barriers need to be prioritised and accelerated to drive the commerciality and scale of retrofits for low-income and all other housing. Including: regulation (e.g., minimum energy performance rental standards and mandatory disclosure); a sustainable buildings rating scheme and corresponding measurement tool verification and certification processes; trusted single touch information and project management (one-stop-shops); a trained workforce; and efficient supply chains.
- The report recommends 14 policy measures across federal, state and territory governments to achieve the above.

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Executive Summary

This report explores mechanisms to support the delivery at scale of substantial energy performance¹ and climate resilience retrofits to low-income housing² in Australia before 2030.

Such retrofits would create homes that are better suited to a changing climate, while reducing poverty and inequality. At the same time, this strategy would build economies of scale and market capacity to accelerate retrofits across all residential buildings at lower cost.

The report is informed by a series of workshops held in 2023, the outcomes of the federal May 2023 budget and subsequent consultations with experts across government, housing, property, energy, finance, climate change and community sectors.³

Residential buildings must be a priority for decarbonisation and resilience building

Climate change is driving the need to accelerate emission reductions to avoid more dangerous impacts and build resilience to deal with the climate impacts already locked in.

Residential buildings can play a critical role in the energy transition by:

- supporting a lower cost and faster transition and lower energy demand,
- reducing energy costs to households, and
- reducing the economic and social burden of extreme weather events.

However, many Australian homes waste energy, are unnecessarily expensive to power, are too hot in summer and too cold in winter and are not resilient enough to withstand worsening extreme weather events, such as heatwaves, bushfires, floods, and cyclones.

This includes approximately:

- 8 million homes constructed prior to the introduction of residential energy efficiency standards.
- 5.2 million homes reliant on inefficient, high polluting, unhealthy and increasingly expensive gas for heating, hot water and cooking.
- 6.8 million homes without rooftop solar.
- 9.8 million homes that are not disaster resilient or climate adapted.

Modeling by ClimateWorks finds Australia will need to decarbonise homes by 2035, if not sooner, to meet the Paris Agreement climate change goals to pursue limiting global warming to 1.5 degrees C.

¹ Thermal efficiency, efficient electric appliances, and on-site renewables

² Public housing, community housing, Aboriginal-controlled housing, private rental and owner-occupier homes.

³ See appendix 1 for a list of organisations consulted. Participation does not mean endorsement of this report.

According to modeling by Deloitte Access Economics, the costs to the economy of worsening extreme weather in 2020 was \$38 billion per year and is estimated to increase to between \$73 billion and \$96 billion per year by 2060. This creates an imperative to make homes climate-resilient as soon as possible to protect people and reduce economic, social, and individual costs.

Retrofits to low-income housing have multiple social and economic benefits

People on low incomes, especially those who rent, are less likely to live in high energy performing and climate resilient homes, they are less likely to have rooftop solar and less likely to have efficient electric appliances.

As a result, people on low incomes are more likely than people on higher incomes to:

- Spend disproportionately more of their income on energy bills.
- Experience energy hardship or have energy debt.
- Go without energy, food, medicine and other essential services to afford energy bills.
- End up sick or dying because their homes are too hot in summer and cold in winter.
- Be negatively impacted by extreme weather events because the housing they live in is not built to be resilient to worsening and more frequent extreme weather.
- Be less likely to have home and contents insurance.

In addition to reducing emissions and the economic, social, and individual costs of extreme weather, research shows that by improving the energy performance and climate-resilience of low-income housing, we can:

- Improve the physical and mental health of people.
- Generate significant and sustained savings on energy bills.
- Generate tens of thousands of jobs nationwide.
- Add billions of dollars to our economy, while delivering ongoing productivity improvements.
- Deliver a higher economic impact than an equivalent program delivered across a broader base of households.

The decarbonisation, resilience building, and equity imperative means we need to improve the energy performance and the climate resilience of homes quickly.

With approximately 1.8 million low-income households across public housing, community housing, First Nations community-controlled housing, private rentals and owner occupiers, the challenge has been identifying one or more suitable finance mechanisms to fund the roll out of retrofits across different housing ownership types.

A national low-income housing retrofits program would build scale and market capacity, while reducing poverty and inequality

The report, *Renovation Pathways* by ClimateWorks, found that an over reliance on market forces will not generate the levels of action needed across the building stock. Rather, regulation and other policy interventions are necessary. This is even truer for low-income housing.

While some regulatory, policy and investment measures have been put in place to support retrofits for low-income housing by federal, state, territory, and local governments, (see Appendix 2), significantly more is needed.

Figure 1 summarises the key themes from the workshops and consultation. There is overwhelming consensus from stakeholders involved in the consultation that federal, along with state and territory governments, have two key roles to play in the short-term:

- Prioritise and directly invest in energy performance and climate-resilient retrofits for low-income housing.
- Directly invest in enablers including the creation on one national rating scheme, regulation including mandatory disclosure of ratings and minimum rental standards, one-stop-shops, skilled workforce and adequate supply chains.

Direct government support for low-income housing retrofits would build economies of scale and market capacity and reduce costs for all housing retrofits. At the same time, it will reduce poverty and inequality for people experiencing disadvantage.

Figure 1 Summary of what's required to improve the energy performance and climate resilience of homes.

Objective

Retrofits to improve the energy performance and climate-resilience of more than 8 million homes, prioritising 1.8 million low-income homes by 2030, to equitably reduce emissions, improve climate resilience, cut energy bills and improve people's health and wellbeing.

Retrofits include thermal efficiency, electrification, in-home renewables, and where necessary measures to build resilience to extreme weather such as bushfire, floods, cyclones and storms.

What do homeowners, landlords, lenders and insurers need to achieve the objective?

- Homeowners and landlords want to know what the benefits of retrofits are, what retrofits do they need, how to finance retrofits at low cost, what incentives if any are available, how to go about implementing retrofits, and how to gain certification for compliance if needed. Some will need additional support.
- Lenders and insurers require access to low cost capital, regulation and standards, measurable tools, verification and certification, scale, and returns.

What is the required enabling environment need to achieve the objective?

Governments play an important role in creating the above enabling environments to drive scale.

- **Funding and finance** – including public capital investment & private capital
- **Regulation** – including mandatory disclosure & mandatory rental standards
Rating scheme, assessment tools, verification and certification processes
- **One-stop-shops** – to provide trusted and culturally appropriate information, education and assistance
- **Skills, workforce, and supply chain** – including assessors, qualified and certified installers, access to affordable products.
- **Prioritise low-income households** – to foster the ecosystem and reduce poverty and inequality.

Prioritising government funding targeted at low-income housing can be used to test tools, establish verification and certification process, build the supply chain, and build economies of scale.

Funding and finance mechanisms for deep retrofits to low-income households

The report focuses primarily on identifying the funding and finance solutions needed to **enable deep⁴ and fast retrofits to low-income housing**. It examines the financial (and non-financial) barriers across low-income housing tenures (i.e., public housing, community housing, First Nations community-controlled housing, private landlord and owner-occupier).

Up-front costs, overall cost, split incentives and tenure were identified in the workshops and consultations as key financial barriers to implementation. Targeted, tailored and equitable funding and finance solutions will be required for each tenure category and Government investment will be essential.

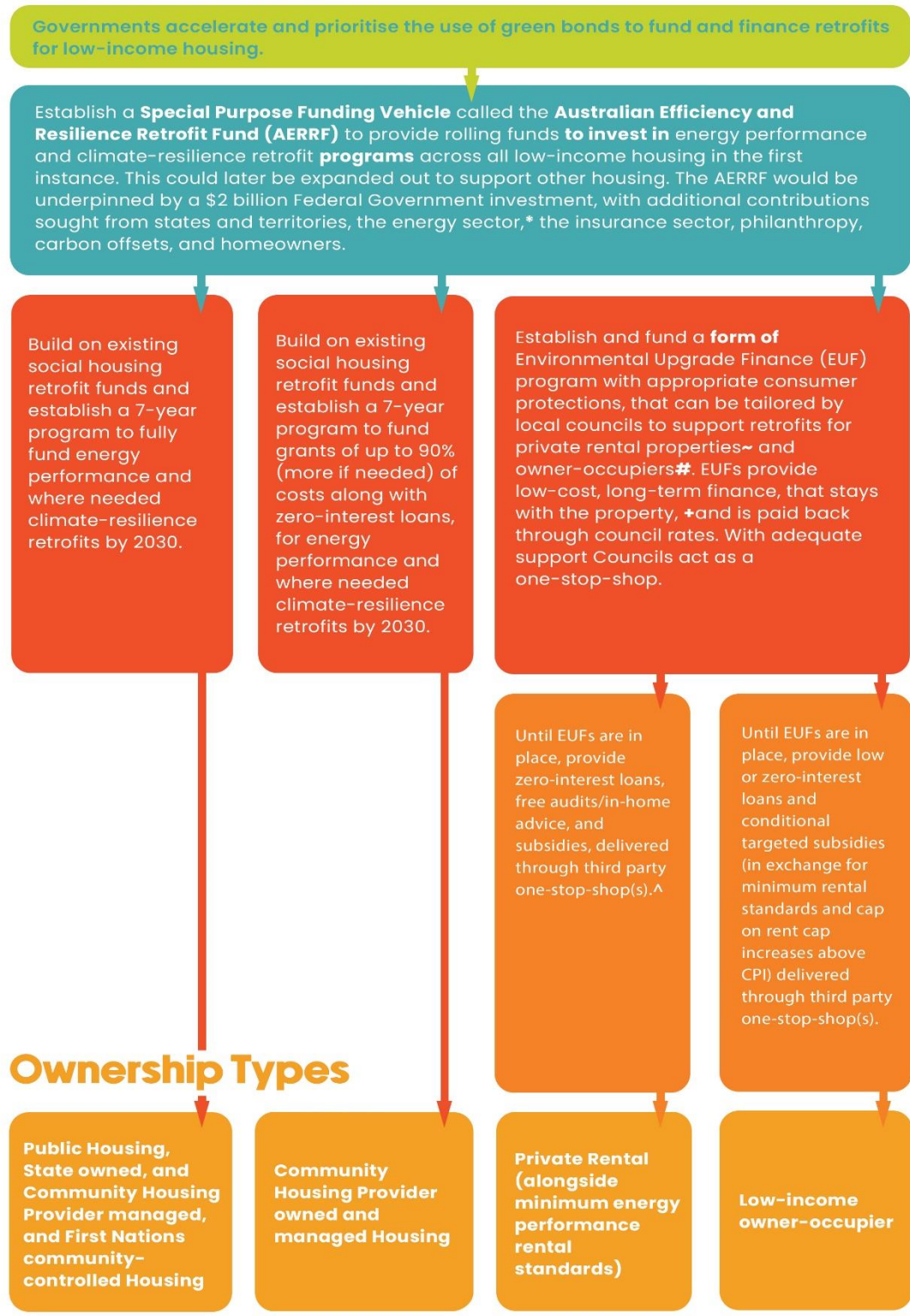
During the workshops, stakeholders reviewed, interrogated and assessed a range of financial and funding models as to their ability and suitability to support deep and accelerated retrofits for low-income housing.

Appendix 3 in this report summarises thirteen funding and finance options, rating their suitability for supporting deep and accelerated retrofits for low-income housing. Seven recommendations are made, as reflected in Figure 2.

⁴ Support retrofits that maximise bills savings, improve health outcomes and emissions reductions, these are likely to include: thermal performance (insulation and draught sealing), electrify (hot water, heating/cooling and cooking) and where possible small scale solar. If done at once will maximise efficiencies and benefits, and reduce disruptions.

Figure 2 Key finance and funding recommendations for energy performance and climate-resilience retrofits of low-income homes.

Funding Solutions



* Revenue derived via energy sector profits, not on bills.

~ Note landlords receive additional benefit as council rates are tax deductible.

Low-income owner-occupiers should receive an additional subsidy to reduce costs.

+ Finance could be paid back earlier and not remain on the property if desired.

^ see for example the ACT Sustainable Household Scheme If modified to include free in-home advice audits and education

An enabling environment is needed to support low-income retrofits

Our consultations made it clear that access to targeted, tailored and equitable funding and finance on its own is not enough to drive the commerciality and scale of retrofits for low-income and other housing. Non-financial barriers will also need to be dealt with. We propose this be done through:

- Better regulations (e.g., minimum energy performance and climate-resilience rental standards and mandatory disclosure on sale and lease of properties).
- Rating scheme, verification, and certification processes.
- Trusted, single touch access to information, finance, products and trades.
- Trained workforce and adequate supply chains.

Active Government support for this key enabling infrastructure is seen by those we consulted as essential to building economies of scale and market capacity.

We have fourteen recommendations.

Recommendations

The Federal Government is investing billions of dollars to increase large scale renewable energy deployment in Australia to reduce emissions, as well as infrastructure projects to build climate resilience. Given the multiple social, economic and fiscal benefits delivered through increased energy performance and climate-resilient housing retrofits, similar expenditure in household retrofits for low-income housing is warranted.

These recommendations are focused on what is required to prioritise **deep and rapid retrofits for low-income housing**, noting they will also reduce the costs of retrofitting all housing.

Prioritising low-income housing retrofits

Recommendation 1: The Federal Government (along with state, territory, and local governments) prioritise and directly invest in energy performance and climate-resilience retrofits for low-income housing and enabling infrastructure. This will improve health outcomes, reduce energy hardship, and build economies of scale and market capacity to reduce the costs of all housing retrofits.

Funding and finance mechanisms to support deep and rapid low-income housing retrofits

Recommendation 2: The Federal Governments Green Bonds program should accelerate the issuance of green bonds to support energy performance and climate-resilience retrofit programs, prioritising programs to fund and finance retrofits for low-income housing.

Recommendation 3: The Federal Government establish a Special Purpose Funding Vehicle, the Australian Efficiency and Resilience Retrofit Fund (AERRF), to provide rolling funds to invest in energy performance and climate-resilience retrofit programs across all low-income housing tenure types (see Recommendations 4, 5, 6, 7 and 8). This could later be expanded to support other housing. The Federal Government should provide an initial injection of \$2 billion, topped up by other sources (see section 6.2 for details).

Recommendation 4: The Federal Government work with state, territory, and local governments to establish and fund Environmental Upgrade Finance (EUF) program, that can be tailored by local councils to support energy performance and climate-resilience retrofits for private landlords and owner-occupiers. EUFs provide low-cost, long-term finance, that stays with the property, and is repaid through council rates. Low-income owner-occupiers should receive an additional subsidy to participate. Local councils would need support to establish such programs with appropriate consumer protections in place (see section 6.3 for details). Funds to support the EUFs could come from the the Australian Efficiency and Resilience Retrofit Fund (AERRF), as proposed in Recommendation 3.

Recommendation 5: The Federal Government, in partnership with state and territory governments, build on existing social housing retrofit funding to establish a 7-year program to fully fund energy performance (energy efficient, all electric, with rooftop solar) and where needed climate-resilience retrofits, for all public housing, State owned & Community Housing Provider managed, and First Nations community-controlled housing, by 2030. Priority should be given to First Nations housing. Governments should provide additional funding for replacement of stock (where it is not cost effective to upgrade), to ensure there is no net reduction in present or future stock (see section 6.4 for details). Funding for retrofits could come from the Australian Efficiency and Resilience Retrofit Fund (AERRF), as proposed in recommendation 3.

Recommendation 6: The Federal Government, in partnership with state and territory governments, build on existing social housing retrofit funding to establish a 7-year grants program to fund and finance energy performance (energy efficient, all electric, with rooftop solar) and, where needed, climate-resilience retrofits for community housing that is owned and managed by the Community Housing Provider, by 2030. The funding for these retrofits could come from the Australian Efficiency and Resilience Retrofit Fund (AERRF), as proposed in recommendation 3. A separate special purpose finance vehicle could be established to provide:

- Access to non-competitive continuous grants to pay up to 90% (more if needed) to implement the retrofits, including project assessment and project management.
- Access to zero-interest or low-interest loans.
- Additional funding for replacement of stock (where it's not cost effective to upgrade), to ensure there is no net reduction in present or future stock (see section 6.5 for details).

Recommendation 7: The Federal Government, in partnership with state and territory governments, establish a 7-year program to support energy performance (energy efficient, all electric, with rooftop solar) and where needed climate-resilience retrofits, for low-income owner-occupiers, before 2030, by:

- Establishing Environmental Upgrade Finance program across councils (recommendation 4) to provide low-cost, long-term on property finance and additional subsidies.
- While the EUF program is being established, provide zero-interest loans, free audits and advice, and subsidies (see section 6.6 for details).
- The funding for these retrofits could come from the Australian Efficiency and Resilience Retrofit Fund (AERRF), as proposed in recommendation 3.

Recommendation 8: The Federal Government should establish a program to support energy performance (energy efficient, all electric, with rooftop solar) and where needed climate-resilience retrofits, for private rental, before 2035, in exchange for state and territory governments implementing minimum energy performance and climate-resilience rental standards. Private rental retrofit program should aim to:

- Establish Environmental Upgrade Finance programs across councils (recommendation 4) to provide low-cost, long-term, on-property finance, paid back through rates.
- While the EUF program is being established, provide low or zero-interest loans and consider conditional and targeted subsidies. Subsidies should be tied to a cap on rent increases.
- Amend tax law so that capital works deductions for new or replacement appliances for rental properties are only available for accredited energy efficient and electric appliances.

Funding for these retrofits could come from the Australian Efficiency and Resilience Retrofit Fund (AERRF), as proposed in recommendation 3. A separate special purpose finance vehicle could be established to deliver the program (see section 6.7 for details).

Enabling infrastructure to underpin low-income housing retrofits.

Recommendation 9: State and territory governments should quickly introduce minimum energy performance standards for rental properties by the end of 2025 in all jurisdictions,⁵ with climate-resilience standards soon after, as part of broader standards for what constitutes healthy and habitable rental housing.

Recommendation 10: State and territory governments should quickly introduce mandatory disclosure of energy performance ratings for all residential buildings when they are sold and leased, to be operational by 2025, and then introduce a climate resilience rating as soon as possible.

Recommendation 11: Phase out gas in residential buildings by:

- Banning new gas connections to new buildings.
- Investigating phase out of the sale of gas appliances. Complementary measures will be needed to support people on low incomes to electrify.

Recommendation 12: To accelerate the introduction of minimum energy performance standards for rental properties and mandatory disclosure, the federal government should:

- Urgently finalise and implement a single national residential building energy performance rating scheme – NatHERS in-home.
- Create a single climate-resilience residential building rating scheme.
- Work with public and community housing providers to test and finalise the two schemes.

⁵ See the [Community Sector Blueprint on Minimum Energy Efficiency Standards](#).

Recommendation 13: Establish a transparent verification and certification process to support data collection, ensure compliance, and provide confidence to homeowners, landlords, lenders and insurers to support implementation and financing of retrofits.

Recommendation 14: The Federal Government provides incentives to support the creation of 'one-stop-shops'. That is, a place where households can go (with access to culturally and linguistically diverse information and services) to find out information on what are the benefits of retrofits, what retrofits are needed, what incentives if any are available, how to go about retrofits, help access assessors and trades, and how to demonstrate compliance, and other relevant information and supports to improve energy affordability, health and wellbeing.

Recommendation 15: The Federal Government directly invest in deep and accelerated retrofits for low-income housing and utilise this investment to:

- Support new business development and local manufacturing.
- Support training and job creation in local communities.
- Support training and upskilling for First Nations people, marginalized groups, women and long-term unemployed.
- Promote meaningful employment for people unemployed long-term, First Nations people, people with disability, and others marginalised in the labour market, including through social procurement guidelines and employment and training programs targeting those groups.

Discussion

1. Why prioritise energy performance and climate resilience retrofits of low-income housing?

1.1 Residential buildings are a priority for decarbonisation and reducing costs of disasters

The Federal Government has committed to reduce emissions to limit global warming to well below two degrees and pursue and limit of 1.5 degrees Celsius.⁶ Australian homes contribute more than 11 percent of Australia's greenhouse emissions.⁷ Residential buildings can, therefore, play a critical role in directly abating emissions and in facilitating a lower cost and faster transition.⁸ Modeling by ClimateWorks finds Australia will need to decarbonise homes by 2035, if not sooner, to meet emissions reduction goals of limiting warming to 1.5 degrees.

Residential buildings will also play an important role in reducing the economic, social and individual impacts and costs of extreme weather events.⁹ Natural disasters are forecast to cost \$1.2 trillion nationally over the next forty years.¹⁰ The CSIRO has calculated that for every \$1 invested in disaster resilience, we can save up to \$11 million in recovery costs.¹¹ The sooner we build climate-resilient homes, the more profound the benefits.

1.2 The energy performance and climate-resilience of Australian homes is poor

The majority of Australia's 10.9 million dwellings¹² rate very poorly on both energy performance and climate resilience:

- Around 8 million dwellings were constructed prior to the introduction of any residential energy efficiency standards.¹³ The average energy efficiency (NATHERs) rating¹⁴ of existing homes in Australia is 1.7 stars.¹⁵ This is in comparison to new homes that are now required to meet a rating of 7 out of a possible 10 stars.

⁶ [Paris Agreement International Treaty on Climate Change 2015](#)

⁷ Department of Environment and Energy 2018 Australian National Greenhouse Accounts: National Inventory by Economic Sector, February 2018, page 2

⁸ Northmore Gordon 2023, [Energy efficiency scenario modelling](#)

⁹ Resilient Building Council <https://rbccouncil.org/>

¹⁰ Deloitte Access Economics (2021) [Special report: Update to the economic costs of natural disasters in Australia](#).

¹¹ CSIRO (2020) [Climate and Disaster Resilience](#)

¹² ABS (2022) [Estimated Dwelling Stock](#)

¹³ <https://www.powerhousingaustralia.com.au/wp-content/uploads/2021/11/PHA-eScan-2021-FINAL.pdf>

¹⁴ NATHERs home's rating depends on how well these factors suit the local climate, including layout of the home and orientation; roof, walls, windows and floor construction methods and materials; shading to the sun's path and how well your home takes advantage of local breezes. It does not rate hot water systems, lights and household appliances aren't taken into account in NATHERs ratings because they're usually replaced several times in the building's lifetime.

¹⁵ COAG Energy Council (2019) [Report for Achieving Low Energy Existing Homes](#)

- There are 5.2 million households (growing by 100,000 a year)¹⁶ that rely on inefficient, high polluting, unhealthy¹⁷ and increasingly expensive gas for heating, hot water and cooking.
- There are only 3.2 million homes with rooftop solar.¹⁸

As a result, many houses in Australia waste energy, are unnecessarily expensive to power, are too hot in summer and too cold in winter, and make people sick.

Further, 90 per cent of homes are not disaster resilient or climate adaptive.¹⁹ That is, they are not resilient enough to withstand worsening extreme weather events, such as bushfires, cyclones, floods and heatwaves.

1.3 People on low incomes are more likely to live in poorly performing, non-resilient homes with devastating consequences

People on low incomes, especially those who rent:

- are more likely to live in inefficient homes;²⁰
- Are less likely to have rooftop solar;²¹
- spend on average four times more of their income on energy bills;²² and
- are less able to afford home and contents insurance.^{23,24}

People on low-income deprive themselves of energy to afford energy bills.

Research has found that people on low incomes are more likely to deprive themselves of energy to afford their energy bills. For example, an ACOSS 2023 cost of living survey of 427 people on low incomes found that 97 per cent were cutting back on their energy use to afford their energy bills.²⁵ This includes cutting back on heating and cooling, use of lights, hot showers, appliances (e.g., switching off the fridge overnight, the hot water heater system and not using the oven to cook). Other actions included going to bed early and not having people over. A third of the people surveyed said they have already cut back their energy use as much as they can and do not know what else to do.²⁶

¹⁶ Gas Energy Australia, [Gas Facts](#). Accessed 28/11/2023

¹⁷ Doctors for the Environment Australia, [Homes Gas Appliances Your Health Fact Sheet](#)

¹⁸ Roy Morgan (2022) [Solar energy systems on households have more than doubled since 2018](#).

¹⁹ Resilient Building Council <https://rbccouncil.org/>

²⁰ ACOSS (2013) [Energy Efficiency and People on low incomes](#)

²¹ ACOSS, ANU and BSL (2018) [Energy Stressed in Australia](#)

²² Ibid

²³ SACOSS (2022) [Protecting the Basics: Insurance access for people on low incomes at risk from climate emergencies](#).

²⁴ Actuaries Institute (2023) [Home Insurance Affordability Update](#)

²⁵ ACOSS (2023) [ACOSS energy and cost of living snapshot](#).

²⁶ Ibid

People on low incomes are going without other essentials to afford energy bills but are still finding themselves in energy debt

The poor energy performance of homes combined with rising energy costs and low-income support payments is seeing people on low incomes go without other essentials to afford their energy bills. Many are also forced into energy debt.

In the ACOSS 2023 cost of living survey, 60 per cent of the 427 people surveyed reported going without food or medicine to afford their energy bills.²⁷ These actions can have particularly severe consequences for people with compromised health.

The survey found energy debt is also a common occurrence among the 427 respondents, with:²⁸

- 19% (32% of people on Jobseeker) currently in energy bill debt with their energy retail provider.
- A further 17% (32% of people on jobseeker) expected to go into energy debt with their next bill.
- 8% have been disconnected or expect to be with their next bill because they cannot afford to pay it.

These findings are consistent with the Australian Energy Regulator's (AER) data that found the number of people in energy hardship debt increasing, as is the size of the debt.²⁹

People on low incomes have higher heat and cold related health impacts.

Many homes in Australia are making people sick because they are too hot in summer and too cold in winter and are costly to keep at healthy and comfortable temperatures year-round.³⁰ A study, published in the journal *Climatic Change*, reveals that in warmer regions of Australia up to 9% of deaths were related to heat, with the elderly facing the greatest risk. Cold weather has a much smaller impact (-0.4% nationwide) except in the coldest climate zone, where 3.6% of deaths could be linked to cold temperatures.³¹ Heatwaves are responsible for more deaths than all other extreme weather events combined,³² with an estimated 36,000 deaths in Australia associated with the heat between 2006 and 2017.³³ Lack of access to energy efficient homes is often cited as a primary factor in these deaths.

Research shows that people on low incomes are twice as likely to have heat- and cold-related health impacts compared to people on higher incomes.³⁴

²⁷ Ibid

²⁸ Ibid

²⁹ AER Quarterly retail performance report January– March 2023

³⁰ DELWP (2022) [Research Report on Energy Efficiency in Rental Properties](#).

³¹ Longden, T. (2019) [The impact of temperatures on mortality across different climate zones](#).

³² L Coates et al., 'Exploring 167 years of vulnerability: an examination of extreme heat events in Australia 1844–2010', in *Environmental Science & Policy*, vol. 42, 2014, 33–44

³³ <https://icedcs.anu.edu.au/research/research-stories/we-know-heat-kills-accurately-measuring-these-deaths-will-help-us-assess>

³⁴ ACOSS (2013) [Energy Efficiency and People on Low Incomes](#),

An ACOSS 2022–23 summer survey of 208 people on low incomes found 89 per cent experienced their home getting very hot in summer, with some describing their interior temperature as “unbearable”.³⁵ More than 62 per cent of people who reported their homes get very hot in summer were unable to cool them down. Some 90 per cent said the heat made them sick and 30 per cent suffered heat stress so badly they sought medical care.³⁶

Remote areas are more likely to experience extremes in temperatures and, as climate change continues to accelerate, the number of days over 50 degrees are predicted to increase.³⁷ These temperatures are dangerous to human health and wellbeing, especially when combined with humid conditions. These conditions are further exacerbated by poor energy performance in homes, meaning that many Australians cannot seek refuge and relief from weather extremes at home.

Conditions are often far worse for remote First Nations communities. A report by the Kimberley Community Legal Services, *Stuck in the Heat: lived experience of public housing tenants in the Kimberley*, found that the effects of extreme heat in inadequate housing is impacting not only the health of tenants but their social, mental, and financial well-being.³⁸

To make matters worse, many First Nations communities rely on pre-paid metering cards to access electricity and can go for days or weeks without electricity because they cannot afford a new metering card. This makes people more reliant on thermally efficient homes to stay cool. The quality of housing can influence life expectancy, young child mortality, disability, chronic disease, and family and community violence.³⁹ Providing homes that are healthy and affordable to operate should be a basic duty of care for those providing social and private rental housing.

People on low incomes or experiencing disadvantage are more likely to live in disaster prone and non-climate resilient homes.

Research shows that people experiencing social and financial disadvantage are more likely to be negatively affected by extreme weather events.⁴⁰ This is because people on low incomes tend to live in areas more likely to be adversely affected by climate change (e.g., areas exposed to heatwaves, floods, storms, or bushfires), because those locations are more affordable to buy or rent a home.⁴¹ In addition, those affected often cannot afford to make necessary adjustments to their homes to build resilience and adapt, or, if tenants of a rental property, lack the authority to do so

³⁵ ACOSS (2023) [Heat Survey: How hotter days affect people on lowest incomes first, worst and hardest](#).

³⁶ Ibid

³⁷ Kimberley Community Legal Services (2022) [Stuck in the Heat: lived experience of public housing tenants in the Kimberley](#)

³⁸ Ibid

³⁹ SCRGSP (Steering Committee for the Review of Government Service Provision) 2020. Overcoming Indigenous disadvantage: key indicators 2020. Canberra: Productivity Commission

⁴⁰ Akter, S., & Grafton, R. Q. (2021). Do fires discriminate? Socio-economic disadvantage, wildfire hazard exposure and the Australian 2019–20 ‘Black Summer’ fires. *Climatic Change*, 165(3), 1–21.

⁴¹ To come

The average home insurance premium now costs almost four times as much as it did in 2004.⁴² A report by the Actuaries Institute shows that home insurance is already unaffordable for more than 1.1 million households, many of whom are on low incomes. Insurance is likely to become more prohibitive as insurance companies raise premiums to meet the payout costs of climate change impacts already locked in.⁴³

People on low incomes are more likely to rent and have less choice and control over dwelling conditions.

Currently 33% of households in Australia rent,⁴⁴ with people on low incomes (lowest 20% of incomes) more likely to be renters (40%).⁴⁵

This figure is significantly higher for First Nations communities. Among First Nations adults, 68% rent, including 34% in social housing and 34% in private rental or renting from another type of landlord.⁴⁶ The statistics change considerably when looking at First Nations populations living in remote and very remote areas, with 89% renting, including 71% living in social housing.⁴⁷

People in rental properties:

- Have less choice and control over the energy performance of their home.
- Are more likely to live in poor energy performing rental homes.
- Lack resources to fund those changes they are allowed to make.

Moreover, there are no incentives for landlords to improve the energy performance or climate resilience of the housing they rent out.

Rising power prices, insurance prices and cost-of living exacerbating the impacts

According to the Australian Energy Regulator (AER), energy equity, particularly affordability, remains a significant concern in energy markets.⁴⁸ The AER noted that customers experiencing vulnerability are likely to face additional challenges keeping energy bills low because they may be less able to implement some of the most effective means of reducing energy bills, including modifying energy use, making home energy efficiency upgrades, and adopting new technologies.

⁴² Insurance Council of Australia (2023), [Data Hub](#) webpage. Accessed January 2023

⁴³ Actuaries Institute (2023) [Home Insurance Affordability update](#)

⁴⁴ AIHW (2023) Housing Affordability <https://www.aihw.gov.au/reports/australias-welfare/housing-affordability>

⁴⁵ ACOSS and BSL (2018) Energy Stressed in Australia <https://www.acoss.org.au/wp-content/uploads/2018/10/Energy-Stressed-in-Australia.pdf>

⁴⁶ AIHW (2023) Housing circumstances of First Nations People <https://www.aihw.gov.au/reports/australias-welfare/indigenous-housing>

⁴⁷ [Ibid](#)

⁴⁸ AER (2023) [State of the Energy Market 2023](#).

1.4 Retrofitting low-income housing has social, health, economic and environmental benefits

The multiple imperatives to urgently improve the energy performance and climate resilience of housing in Australia through better energy efficiency, electrification, on-site renewables, and other climate resilient measures. **It should be a whole-of-government priority.**

In addition to the critical need to **reduce emissions** at low cost and **reduce the economic, social and individual costs of extreme weather events** outlined earlier, other benefits follow.

Reduce energy bills and prevent energy hardship

Investing in energy performance retrofits, such as energy efficiency, electrification, and rooftop solar can cut energy bills by thousands of dollars each year and reduce energy hardship for the 3 million people currently living below the poverty line.

Examples of the types of savings are presented below:

- Climate Council analysis shows an average Australian household would save between \$1,119 and \$2,872 each year by combining both electrification and practical efficiency upgrades.⁴⁹
- Analysis by the Australian Photovoltaic Institute shows the average bill reduction from rooftop solar for a family of four, using 15kW-hours of energy per day with a 6.5 kW solar system, is between \$1,134 a year in Victoria and up to \$1,822 in South Australia.⁵⁰
- An Australian study of improved energy performance in social housing found bill savings of \$1,050 a year.⁵¹
- St George Community Housing retrofitted 1400 Community Housing places across NSW, saving tenants an average of \$570 each year.⁵²
- The South Australian social housing virtual power plant, where solar and battery is installed and managed by a third party at no cost to the renter, reduces energy bills by about \$423 per annum.⁵³

Improve health and wellbeing

Research in Australia⁵⁴ and New Zealand⁵⁵ has shown that energy efficient homes lead to fewer visits to health professionals and hospitals, improved health outcomes, fewer days away from school and work, and less social isolation.

⁴⁹ Climate Council (2023) [Smarter Energy Use: How to cut energy bills and climate harm.](#)

⁵⁰ Chanel 9 News (2023) [More Australians turning to solar as electricity prices soar by up to 25 per cent](#) Based on analysis by the Australian Photovoltaic Institute.

⁵¹ Moore, T; Nicholls, L; Strengers, Y; Maller, C; and Horne, R (2017) Benefits and challenges of energy efficient social housing. Energy Procedia 121 (2017) 300-307.

⁵² <https://www.theleader.com.au/story/4071387/power-bills-to-be-cut/>

⁵³ <https://www.energymining.sa.gov.au/consumers/solar-and-batteries/south-australias-virtual-power-plant>

⁵⁴ Ibid.

⁵⁵ Moore, T; Nicholls, L; Strengers, Y; Maller, C; and Horne, R (2017) Benefits and challenges of energy efficient social housing. Energy Procedia 121 (2017) 300-307

An Australian study found the biggest benefit from improved thermal comfort at home was experienced during extreme weather conditions, such as heatwaves.

Recent research by Sustainability Victoria that trialed energy efficiency and thermal comfort improvements in low-income housing, found that they were associated with health benefits, like reduced breathlessness, and improved quality of life, particularly in mental health and social care.⁵⁶ These benefits spread beyond individuals. The study found upgrades led to savings to the healthcare system of almost \$900 per person over the winter period. For every \$1 saved in energy, more than \$10 was saved in healthcare.⁵⁷

In New Zealand, a government program aimed at improving efficiency through better insulating homes similarly found benefits including hospitalisation and pharmaceutical cost savings; reduced medical visits; reductions in caregiver costs and reduced days off school or work.⁵⁸

A recent report by Asthma Australia that surveyed 5,041 people found that three in ten people with asthma reported their symptoms are worse after spending time in their homes, triggered by gas cooktops, mold or dampness, and pests. In their report, they note that cooking with gas is estimated to be responsible for up to 12% of the childhood asthma burden in Australia, which is comparable to the risk of tobacco smoke exposure in the home.⁵⁹

Reduce poverty and inequality

Energy performance and climate-resilience retrofits will contribute to reducing poverty and disadvantage by:

- Significantly reducing energy bills and increasing disposable income.
- Reducing health related bills.
- Lowering home and content insurance costs.
- Preventing or minimising costs incurred to home and contents from extreme weather events.
- Improving health and wellbeing.

Create a lower cost, more secure and more resilient power system

Australian homes account for around 24 per cent of electricity demand. They use even more during peak periods such as heatwaves,⁶⁰ where both network investment and wholesale energy prices are driven by peak demand. Reducing demand by improving energy performance can reduce the need for costly network and generation investment, resulting in

⁵⁶ Sustainability Victoria (2022), [The Victorian Healthy Homes Program: research findings](#)

⁵⁷ Ibid.

⁵⁸ Grimes et al. 2012, [Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme, New Zealand Ministry of Economic Development](#).

⁵⁹ Knibbs, Woldeyohannes, Marks, Cowie. 2018. Damp housing, gas stoves and the burden of childhood asthma in Australia. *MJA*.208(7):299–302.

⁶⁰ Department of Environment and Energy, Australian National Greenhouse Accounts: National Inventory by Economic Sector, February 2018, page 2

lower prices for all. Lower demand can also improve security and resilience by reducing the risk of blackouts at peak times.⁶¹

Support employment growth in urban, regional, and remote areas

Previous estimates have found that even a very basic program of energy efficiency and solar upgrades to residential properties could create more than 120,000 job-years of employment. Because low-income housing is located in urban, regional and remote areas, the jobs would be spread across the country providing local employment opportunities.

Targeting low-income housing has greater economic benefits

Analysis by Deloitte Access Economics of the economic benefits from improving the energy performance of 1.8 million low-income homes found it would deliver an additional \$4.9 billion in gross domestic product and it would deliver a 17% higher economic impact than an equivalent program delivered across a broader base of housing retrofits (i.e., to middle- and higher-income households). The report notes these positive impacts are sustained as improved energy efficiency effectively delivers ongoing productivity improvements for the Australian economy.⁶²

Creates foundation for improving homes for all Australians

Establishing enabling systems and processes for energy performance and climate-resilience retrofits for low-income households means that they can easily be extended to other households, multiplying the economic, social and environmental benefits.

Savings to governments

While not yet quantified, energy performance and climate resilient measures would provide significant savings to government across several portfolios, for example. by:

- Reducing government expenditure on Medicare and hospitals because of fewer health presentations to doctors and hospitals, and less reliance on some medications.
- Reduce government expenditure on disaster recovery and resilience. The economic costs of extreme weather were \$38 billion per year in 2020 and is expected to increase \$73 to \$96 billion per year by 2060.⁶³
- Reduce government funding towards energy concessions and rebates.

2. Understanding the different types of low-income housing

There are approximately 1.82 million households in Australia on the lowest 20% of incomes.⁶⁴ These low-income households are spread across five different types of ownership structure, including:

⁶¹ Australian Sustainable Built Environment Council (ASBEC) and ClimateWorks Australia (CWA) 2018, The Bottom Line: The household impacts of delaying improved energy requirements in the Building Code

⁶² Deloitte Access Economics (2021) The economic impacts of the National Low-income Energy Productivity Program.

⁶³ Deloitte Access Economics (2021) [Special report: update to the economic costs of natural disasters in Australia](#)

⁶⁴ ACOSS, ANU and BSL (2018) [Energy Stressed in Australia](#)

Public housing

Public housing is social housing that is owned and managed by state and territory governments.

There are approximately 14,662 state-owned and managed First Nations housing and approximately 305,191 other state-owned and managed housing properties.⁶⁵

Community housing

Community housing is social and affordable housing that is either owned and managed by a registered not for profit community housing provider (CHP) or owned by a state and territory government but managed on behalf of government by a registered community housing provider

Some community housing providers also headlease private rental properties to let as social housing using state and territory subsidies. A few others also manage private rentals on a fee for service basis. Some of these are rented at a small discount to market.

There are approximately 17,660 Community Housing Provider managed First Nations housing and 100,205 other Community Housing Provider managed social housing.⁶⁶ The National Community Housing Association (CHIA) estimate more than 120,000 homes are managed Community Housing Providers.⁶⁷

First Nations social housing

As noted above most First Nations social housing is owned and managed by either State and Territory Governments or by Community Housing Providers.

However, some Aboriginal Land Councils also own and manage social housing.

Private rental

There are 2.4 million private rental properties in Australia,⁶⁸ with more than 270,000 tenanted by people on the lowest 20% of income.⁶⁹

Owner-occupier

There are approximately 1.1 million households that are owned or being purchased by people on low-fixed incomes, many of whom are retirees.

⁶⁵ AIWH (2020) [Housing Assistance in Australia 2020](#)

⁶⁶ Ibid

⁶⁷ [CHIA-Profile-2023-Final-1.pdf](#)

⁶⁸ AIWH (2023) [Home ownership and housing tenure](#)

⁶⁹ ACOSS, ANU and BSL (2018) [Energy Stressed in Australia](#). See appendix 2, renters (minus social housing numbers above)

Other

This paper does not consider retirement homes, caravans or look at specific solutions for apartment blocks (that aren't associated with social housing), although some funding and finance mechanisms discussed here could be applicable.

3. Barriers to improving the energy performance and climate resilience of low-income housing

Table 1 below outlines the barriers to improving the energy performance and climate-resilience of low-income housing, as identified by our workshop consultations and research. The barriers are classified by ownership structure.

While some barriers are the same across the different ownership structures – such as high up-front costs, lack of access to finance, and supply chain constraints – others are unique to specific ownership types. These differences highlight a need for targeted regulation and finance solutions for each tenure type.

Table 1. Financial and non-financial barriers to energy performance and climate resilience retrofits by low-income housing ownership type.

	Financial and Funding Barriers	Non-Financial Barriers
Public Housing (PH)	<ul style="list-style-type: none"> • Split Incentive. Government owns the property. Tenants cannot undertake retrofits. • High upfront costs of retrofits. This is likely to be higher in regional and remote areas. • Inadequate government funding. Funding for retrofits is competing with the urgent need for new social housing dwellings, along with maintenance of existing stock. • Lack of access to low-cost capital to lower costs of delivery. • Bureaucracy. Financing models for retrofits have long-lead time for approval. • Availability and accessibility of affordable products. Not enough products in Australia and the lack of assessors and trades can increase cost. 	<ul style="list-style-type: none"> • Lack of regulation requiring energy performance or climate-resilience minimum standards. • Lack of data on what's required to retrofit properties and whether some properties should be knocked down and rebuilt rather than be retrofitted. • Lack of market incentives such as reduced insurance premiums for more resilient properties. • Supply chain constraints for retrofits on the scale needed, at an acceptable cost. Higher constraints in regional and remote areas. • State Housing Authorities may lack project development, delivery expertise and capacity. • Lack of appropriate rating tools to support energy performance and climate resilience retrofits.

		<ul style="list-style-type: none"> • Lack of verification and accountability processes.
Community Housing (CH)	<ul style="list-style-type: none"> • Split incentive. Community Housing Provider owns (or manages on behalf of state or territory government) the property. Tenants cannot undertake retrofits. • High upfront costs of retrofits. This is likely to be higher in regional and remote areas. • Reliant on additional funds. Energy performance and climate-resilience retrofits are not business as usual and require additional funds, including project management costs. Costs cannot be recouped from tenants as rent caps are regulated to ensure access to affordable housing.⁷⁰ • Reliant on government permission. In the case where Community Housing providers manage property for state and territory governments, they may lack permission. • Lack of access to low-cost capital to lower costs of delivering retrofits. • Availability and accessibility of affordable products. Not enough products in Australia and the lack of assessors and trades can increase cost. 	<ul style="list-style-type: none"> • Lack of regulation requiring energy performance or resilience minimum standards. • Lack of data on what's required to retrofit properties and whether some properties should be knocked down and rebuilt rather than be retrofitted. • Lack of market incentives such as reduced insurance premiums for more resilient properties. • Supply chain constraints for retrofits on the scale needed, at an acceptable cost. Higher constraints in regional and remote areas. • Typically, Community Housing Providers do not have project development, delivery expertise and capacity to do energy performance and climate-resilience retrofits. • Lack of appropriate rating tools to support energy performance and climate resilience retrofits. • Lack of verification and certification processes.

⁷⁰ Noting some community housing providers have proposed recouping costs from tenants under a better-off-test, however given current high rents, high costs of energy, high insurance costs, high cost of living, and inadequate income support payments, ACOSS would not support tenants contributing to costs of upgrades.

<p>Private Rental (PR)</p> <p>Landlords currently access the following financial benefits:</p> <ul style="list-style-type: none"> • Earn an income from rental revenue. • Direct tax deduction on rental expenses such as advertising costs, agent fee, legal fees, council rates, insurance, repairs and maintenance, land tax, body corporate etc • Loan interest deductions. • Depreciation offset against income. • 50% discount on capital gains. 	<ul style="list-style-type: none"> • Split incentive. Tenants cannot undertake retrofits without landlord permissions. Landlords do not pay energy bills and are reluctant to invest in energy performance upgrades, especially if they cannot recoup their costs through increased rental payments or some other return on investment. Low rental vacancy rates in Australia exacerbate this situation, as landlords are under little pressure to improve the property and renters are unlikely to demand improvements since they have limited power or rights and can be easily replaced. To date incentive schemes have largely failed. • High upfront costs of retrofits. This is likely to be higher in regional and remote areas. • Lack of access to low-cost capital for retrofits. Noting private landlords receive generous tax concessions for renting a property. • Availability and accessibility of affordable products. Not enough products in Australia and the lack of assessors and trades can increase cost. 	<ul style="list-style-type: none"> • Power imbalance and lack of agency means tenants feel they cannot ask for retrofits. • Lack of regulation mandating energy performance or climate-resilience disclosure or minimum standards. • Low awareness, understanding or appreciation of benefits for tenants. • Duration, hassle, and complexity of retrofits. • Lack of market incentives such as reduced insurance premiums for more climate-resilient properties, reduced mortgage interest rates, and value of retrofits may not be reflected in the property. • Lack of quality information on what's required and support on products, choices and suppliers to build trust and confidence. • Lack of verification and certification processes. <p>Note: There is a concern that landlords will increase rent if they invest in or are required to invest in retrofits.</p>
<p>Low-income Owner-Occupier (OO)</p>	<ul style="list-style-type: none"> • High upfront costs of retrofits. This is likely to be higher in regional and remote areas. • Lack of access to affordable capital. For example, low-interest loans are often still out of reach for someone on a low-fixed income who does not have the scope within their budget to pay additional interest, especially if bill savings are not realised. 	<ul style="list-style-type: none"> • Low awareness or understanding of the benefits of energy performance and climate resilience retrofits. • Lack of quality information and support on what's required, products, choices and suppliers to build trust and confidence. • Duration, hassle, and complexity of retrofits.

	<ul style="list-style-type: none"> • Availability and accessibility of affordable products. Not enough products in Australia and the lack of assessors and trades can increase cost. • Duration of tenancy. Energy bills savings may not accrue to the original owner if they move property and still have the loan to pay off. 	<ul style="list-style-type: none"> • Lack of regulation and disclosure requirements to incentivise retrofits. • Lack of market incentives such as reduced insurance premiums for more resilient properties. • Permission required if in a share hold apartment or retirement village. • Lack of verification and certification processes.
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This project originally set out to focus on developing solutions for financial and funding barriers to drive deep retrofits to low-income housing. However, in consultation with stakeholders it was clear that finance and funding mechanisms could not be considered in isolation, and that without other ‘enabling elements’, finance and funding solutions would not be enough to drive scale and investment.

This feedback is consistent with the 2023 report, *Renovation Pathways*, by ClimateWorks which finds an over-reliance on market forces will not generate the levels of action needed across the building stock and that regulation and other policy interventions are necessary.⁷¹

Figure 3 outlines the key enablers to drive and scale up retrofits in time to meet emissions reduction targets; reduce economic, social and individual costs of worsening extreme weather events; and realise the co-benefits benefits outlined above.

In addition, stakeholders noted that a lack of clarity on who is responsible for the different enablers across federal, state and territory governments was also making things harder.

Figure 3. Enablers to drive retrofits.



⁷¹ <https://www.climateworkscentre.org/project/renovation-pathways/>

4. Options - Finance and funding options to support energy performance and climate resilience retrofits for low-income housing

The cost of retrofitting low-income housing is hard to estimate and will depend on the climate zone, the depth of required retrofits, the age of the dwelling, existing measures and appliances, and whether climate resilience measures also need to be considered.

Given the imperative to act quickly to reduce emissions, reduce costs from worsening extreme weather and reduce poverty and inequality, this paper is focusing on finance and funding mechanisms that can lead to accelerated and deep retrofits for low-income housing.

We estimate the cost of a decent energy performance retrofit to be a minimum of \$12,500 per dwelling. This would include an energy audit and installation of a small-scale solar PV, an efficient split-cycle air conditioner; a hot water heat pump; LED lighting; basic thermal shell insulation, draught-proofing, and shading.

Costs for climate-resilience upgrades will vary depending on location, level of risk/exposure, and age of building and can be anywhere between a few thousand up to \$50,000. The Resilience Building Council believes it's important to examine energy performance and climate-resilience opportunities together to maximise efficiencies and effectiveness, and reduce any risks of maladaptation.

There is potentially a role for the National Housing and Homelessness Plan and the funding under the Housing Australia Future Fund, to work in collaboration with a social housing energy performance and retrofit programs. However, governments will need to budget for upgrades or replacement of stock (where it is not cost effective to upgrade) through additional funding, to ensure there is not a reduction in present or future stock.

As we saw in section 3, there are significant financial barriers to retrofit low-income housing and these barriers vary depending on tenure type.

During the workshops to inform this report, stakeholders assessed 13 funding and financial solutions to support deep and accelerated retrofits across the different low-income housing tenure types. Including:

1. Sustainable government bonds (green, social, sustainability ad sustainability linked bonds).
2. Full, direct government funding i.e., via grants and subsidies.
3. Partial, direct governments i.e., via grants and subsidies.
4. Government rebates.
5. Zero-interest loans.
6. Low-interest loans.
7. Public and private investment.
8. Environmental Upgrades Finance (on property finance).
9. Special purpose funding and finance vehicles.
10. Better targeted energy retailer Energy Efficiency Schemes.
11. Network regulated finance of retrofits
12. New tax incentives.
13. Modification to existing tax incentives.

The analysis of each option is in Appendix 3.

Recommendations:

5. Prioritise low-income households for retrofits to foster the ecosystem and reduce poverty and inequality

There was overwhelming consensus from stakeholders involved in the consultation that governments, have two key roles to play in the short-term:

- To prioritise and directly invest in energy performance and climate-resilient retrofits for low-income housing. It was agreed that public, community and Aboriginal Land Council housing would be the simplest to get underway.
- To invest in the enablers outlined in Figure 3 to support retrofits for all low-income housing tenure types and create an ecosystem to build economies of scale and market capacity to undertake all housing retrofits.

Recommendation 1: The Federal Government (along with state, territory, and local governments) prioritise and directly invest in energy performance and climate-resilience retrofits for low-income housing and enabling infrastructure. This will improve health outcomes, reduce poverty and inequality, and build economies of scale and market capacity to reduce the costs of all housing retrofits.

6. Finance and funding options to support energy performance and climate resilience retrofits for low-income housing

Thirteen different funding and finance options were assessed for their ability to support deep and accelerated retrofits for low-income housing (see appendix 3 for analysis). We choose options based on their ability to:

- Support deep retrofits.
- Support acceleration of retrofits.
- Support energy performance AND climate-resilience retrofits.
- Support low-income housing.
- Overcome multiple key barriers.
- Not exacerbate the housing affordability and rental crisis.

Several options were ruled out as not suitable to meet the above criteria. Seven options are outlined below.

6.1 Sustainability bonds

Through pursuing long-term green, social or other bonds, the Federal Government can play an important role in providing lower-cost and longer-term finance options for state and territory governments, local councils, government funded finance vehicles and private lenders and investors. This will further reduce the costs of energy performance and climate-resilience retrofits.

We were pleased to see the Federal Government announcement on the 21 April 2023 of their intention to establish a [Green Bonds program](#), that will enable the government to issue green bonds to mobilize additional lower cost finance and deepen sustainable finance markets in Australia. The program will be managed by the Australian Office of Financial Management and is slated to begin in mid-2024 following the development of a Green Bonds Framework⁷² and engagement with investors.

The Green Bonds program should accelerate the issuance of green bonds to support energy performance and climate-resilience retrofit programs, prioritising programs to fund and finance retrofits for low-income housing.

⁷² https://www.aofm.gov.au/sites/default/files/2023-12-05/Green%20Bond%20Framework_WEB.pdf

Including 'adaptation' in the Australian Sustainable Finance Taxonomy will also be critical to facilitate the use of Green bonds and low-cost finance for adaptation retrofits to homes.

Recommendation 2: The Federal Governments Green Bonds program should accelerate the issuance of green bonds to support energy performance and climate-resilience retrofit programs, prioritising programs to fund and finance retrofits for low-income housing.

6.2 Special Purpose Funding and Finance Vehicles

In the May 2023 Budget, the Federal Government allocated \$1.3 billion to establish the Household Energy Upgrades Fund (HEUF).⁷³ The HEUF provides \$300 million for co-investment with states and territories to upgrade the energy efficiency of up to 60,000 public and community housing dwellings. The HEUF also provides \$1 billion in equity to the Clean Energy Finance Corporation (CEFC)⁷⁴ to partner with banks and other lenders to provide discounted consumer finance⁷⁵ to increase sustainability across the housing sector.

While these incentives were welcome as a good start, they do not go far enough to provide the deep energy efficiency and climate-resilient retrofits needed for low-income housing within the timeframe required. The CEFC HEUF is unlikely to help low-income households for the following reasons:

- Does not overcome financial barriers for people on low-income.
- Does not lend to Community Housing Providers or First Nations community-controlled housing.
- Does not adequately incentivise landlords.

A separate fund should be established that focuses on facilitating deep and rapid energy performance and climate-resilient retrofits for low-income housing (public, community, owner-occupier and private rental), which could be expanded to the broader residential sector if needed.

We recommend setting up a Special Purpose Funding Vehicle⁷⁶ called the Australian Efficiency and Resilience Retrofit Fund (AERRF). As with the establishment of the Australian Renewable Energy Agency (ARENA),⁷⁷ we propose that the Federal Government inject an initial \$2 billion to establish the fund. To increase the amount of funding available to the AERRF to support deeper and scaled up retrofits, other sources of revenue could come from:

⁷³ <https://ministers.treasury.gov.au/ministers/jim-chalmers-2022/media-releases/helping-australians-save-energy-save-energy-bills>

⁷⁴

⁷⁵ The funds go to approved financiers who will provide low-cost finance to individual households only.

⁷⁶ A Special Purpose Funding Vehicle is an entity or vehicle designed to gather and allocate funding for a dedicated cause or initiative. This could involve the aggregation of funds from various sources to support projects, programs or sectors

⁷⁷ Established by the Australian Government in 2012 ARENA has provided \$2.25 billion in grant funding to support improvements in the competitiveness of renewable energy and enabling technologies, increase the supply of renewable energy in Australia, and to facilitate the achievement of Australia's greenhouse gas emissions targets by providing financial assistance and sharing knowledge to accelerate innovation that benefits all Australians.

- State and territory governments.
- Energy and insurance industry contributions. Contributions should be levied on profits with safeguards to ensure that costs are not passed on to consumers via electricity bills.
- Insurance industry contribute.
- Housing owners. If the AERRF is used to support Environmental Upgrade Finance (EUFs), funds are returned via council rates.
- Philanthropy may fund specific retrofits to realise social benefits (i.e., to prioritise, accelerate and do deep retrofits for First Nations housing).
- Carbon offsets if energy performance and climate-resilience are eligible.

The Australian Efficiency and Resilience Retrofit Fund (AERRF) would invest in programs to:

- Build on the \$300 million currently allocated to retrofit up to 60,000 social housing dwellings, to fund retrofits in ALL public housing, community housing, and Aboriginal Land Council dwellings (see recommendations 5 and 6).
- Underwrite zero-interest loans or Environmental Upgrade Finance (EUFs), and provide retrofit subsidies for low-income owner-occupiers; and
- Underwrite low-interest loans or Environmental Upgrade Finance (EUFs), and conditional subsidies for private landlords (also conditional on State and Territories introducing minimum energy performance and climate-resilience standards).

Specific Purpose Finance Vehicles could be established to deliver these programs.

Recommendation 3: The Federal Government establish a Special Purpose Funding Vehicle, the Australian Efficiency and Resilience Retrofit Fund (AERRF), to provide rolling funds to invest in energy performance and climate-resilience retrofit programs across all low-income housing tenure types (see Recommendations 4, 5, 6, 7 and 8). This could later be expanded to support other housing. The Federal Government should provide an initial injection of \$2 billion, topped up by other sources.

6.3 Environmental Upgrade Finance (EUF)

An Environmental Upgrade Finance (EUF) is a tri-party finance mechanism between a building owner, local council and a finance institution to provide low-cost and long-term finance to undertake energy performance and climate resilience improvements. The finance contributes 100% of the upfront costs to the homeowner. The liability is secured against the property and repaid through council rates. Repayment is typically over extended timescales (10-15 years) at a low or no interest rate. Repayments are often calculated to be less than the savings made from energy efficiencies. Importantly, the liability remains with the property if there is a change of ownership.

Legislation exists in Victoria, New South Wales and South Australia to support EUFs, however, to date they have mainly been used on non-residential buildings. More than 70 local councils have successful experience with EUFs.

ARENA and Better Building Finance have been working on ways to expand the EUF market and has developed a guide for local councils.⁷⁸

EUFs for residential buildings managed through councils offer significant benefits over other financing and funding mechanism, especially for private landlords and owner-occupiers.

Benefits include:

- A portion of the cost of retrofits are recouped through council rates.
- Longer repayment (10–15 years) reduces the weekly repayment amount allowing savings to outweigh costs. This would support deeper retrofits.
- Finance stays on property so original loan recipient is not saddled with repayments when they sell the property and no longer receive a benefit.
- The cost to recipients can be further reduced because local councils can use a tender process to bulk purchase and, depending on the finance structure, reduce GST costs.
- Councils (or a representative) act as a one-stop-shop facilitating finance, access to additional financial supports, and access to information, suppliers and trades.
- Council rates are currently tax deductible for landlords.
- EUFs can be combined with additional subsidies, such as those currently provided to low-income owner-occupiers by some local councils.

However, additional reforms and supports would be needed to establish EUFs across Australia, including:

- State and territory governments would need to work with local council associations to introduce legislation to enable EUFs in all jurisdictions.
- Reforms to existing EUF legislation to enable local councils to access other finance mechanisms such as bonds via Municipal Council Association or a federal government fund like the proposed AERRF, or specially constructed finance vehicle, rather than requiring a third-party financier.
- Stronger accountability and consumer protections to ensure retrofits are appropriate for the household and that savings will outweigh repayments. This should enable repayments to be paid out early if desired.
- Initial additional financial support to build the capacity of local councils to establish an EUF program, including establishing finance and billing platforms to manage retrofit repayments like [Better Building Finance](#) and one-stop-shop platforms like [Brighte](#) and

⁷⁸ Better Building Finance (2019) [Environmental Upgrade Finance: program guide for councils](#)

[Boom!](#) to access suppliers and trades. This could be done through a fund like the proposed AERRF.

A separate special purpose finance vehicle could be established to deliver this program, drawing on funds from the proposed AERRF.

Recommendation 4: The Federal Government work with state, territory, and local governments to establish and fund a form of Environmental Upgrade Finance (EUF) program, that can be tailored by local councils to support energy performance and climate-resilience retrofits for private landlords and owner-occupiers. EUFs provide low-cost, long-term finance, that stays with the property, and is repaid through council rates. Low-income owner-occupiers should receive an additional subsidy to participate. Local councils would need support to establish such programs with appropriate consumer protections in place. Funds to support the EUFs could come from the the Australian Efficiency and Resilience Retrofit Fund (AERRF), as proposed in Recommendation 3.

6.4 Direct government funding for retrofits for public housing, First Nations community housing or Aboriginal Land Council housing

There was strong consensus that the government should fully fund energy performance and where needed climate-resilience retrofits for public housing and housing managed by Aboriginal Land Council Housing.

In addition to reducing poverty and inequality and closing the gap for First Nations people and communities, such investment would establish the enabling environments to commercialise scalable retrofits for all housing stock.

There are approximately 305,191 other state-owned and managed housing properties, and an additional 14,662 state-owned and managed First Nations housing dwellings, and additional (unknown) properties managed by Aboriginal Land Councils.

We acknowledge some funding is already available:

- In the May 2023 budget, the Federal Government announced \$300 million to public and community housing providers, to be matched by state and territory governments, to deliver energy performance retrofits to up to 60,000 properties.
- The Victorian Government has allocated \$158 million (including \$46 million from the Federal Government allocation) to support a range of energy efficiency upgrades for 35,000 public, community and Aboriginal housing properties.⁷⁹
- The Australian Capital territory has allocated \$35.2 million in partnership with the Federal Government to provide electrification and energy efficiency upgrades to 5,000 social housing properties.⁸⁰

⁷⁹ <https://www.housing.vic.gov.au/energy-efficiency-social-housing>

⁸⁰ <https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-energy-upgrades-ease-cost-living-pressures-social-housing-residents>

However, while a good start, the funds are not enough to do deep retrofits or retrofit all of the 300,000 public and First Nations community-controlled housing dwellings. Further, the funds are only for energy performance⁸¹ retrofits and do not include climate-resilience retrofits.

There would be some public housing that would be able to commence retrofits relatively quickly while others would need to do comprehensive data collection, planning and bring in or outsource project management expertise. This will allow retrofits to be staggered.

In addition, governments need to provide additional budget for replacement of stock (where it is not cost effective to upgrade), to ensure there is not a reduction in present or future stock.

We are calling on the Federal Government to build on the existing \$300 million co-funded initiative for social housing and set up a larger **fund**, that public housing providers and First Nations community-controlled housing providers can apply to when ready, to retrofit all social and First Nations community-controlled housing properties. This could be done through a special purpose funding vehicle (like the proposed AERRF in 6.2 above) or in partnership with state and territory governments.

Recommendation 5: The Federal Government, in partnership with state and territory governments, build on existing social housing retrofit funding to establish a 7-year program to fully fund energy performance (energy efficient, all electric, with rooftop solar) and where needed climate-resilience retrofits, for all public housing, State owned & Community Housing Provider managed, and First Nations community-controlled housing, by 2030. Priority should be given to First Nations housing. Governments should provide additional funding for replacement of stock (where it is not cost effective to upgrade), to ensure there is no net reduction in present or future stock. Funding for retrofits could come from the Australian Efficiency and Resilience Retrofit Fund (AERRF), as proposed in recommendation 3.

6.5 Community housing

Community Housing Providers own (or manage on behalf of state or territory government) the property. There are approximately 17,660 Community Housing Provider managed First Nations housing and 100,205 other community housing properties.

Energy performance and climate-resilience retrofits are not business as usual and require additional funds to implement, including project assessment and project management.

In addition, governments need to provide additional budget for replacement of stock (where it is not cost effective to upgrade), to ensure there is not a reduction in present or future community housing stock.

Costs cannot be recouped from tenants as rent caps are regulated to ensure access to affordable housing. Some community housing providers have proposed recouping costs from tenants under a better-off-test. However, given current high rents, high costs of energy, insurance costs, high cost of living, and inadequate income support payments, with people are

⁸¹ Thermal efficiency, electrification and rooftop solar.

going without essentials to afford rent and energy, ACOSS would not support tenants contributing to the costs of retrofits.

As noted directly above, we recognize the recent funding for energy performance retrofits for social housing by the Federal, Victorian and Australian Capital Territory Governments (with some other jurisdictions to make announcements soon), but as noted above its not enough to do deep retrofits or retrofit the more than 100,000 Community Housing properties, nor to include climate-resilience retrofits.

We are calling on the Federal Government to build on the existing \$300 million co-funded initiative for social housing and set up a 7-year grants program, that community housing providers can apply to when ready, to retrofit all community housing properties. The fund could be accessed via a special purpose funding vehicle like the proposed AERRF in 6.2 above, or in partnership with State and Territory Governments.

A separate special purpose finance vehicle could be established to deliver this program.

Recommendation 6: The Federal Government, in partnership with state and territory governments, build on existing social housing retrofit funding to establish a 7-year grants program to fund and finance energy performance (energy efficient, all electric, with rooftop solar) and, where needed, climate-resilience retrofits for community housing that is owned and managed by the Community Housing Provider, by 2030. The funding for these retrofits could come from the Australian Efficiency and Resilience Retrofit Fund (AERRF), as proposed in recommendation 3. A separate special purpose finance vehicle could be established to provide:

Access to non-competitive continuous grants to pay up to 90% (more if needed) to implement the retrofits, including project assessment and project management.

Access to zero-interest or low-interest loans.

Additional funding for replacement of stock (where it's not cost effective to upgrade), to ensure there is no net reduction in present or future stock.

6.6 Owner occupiers finance options

By far the biggest group of low-income households are owner occupiers, with approximately 1.1 million households that fall into the category.⁸² Most are likely to be pensioners who own or are paying off their home, but have a very low fixed income.

There were several funding and finance options explored in Appendix 3 that would suit owner occupiers:

- Full government subsidies (option 2). These could be managed by a third party like Brighte in the ACT providing a one-stop-shop, including access to preferred suppliers and trades. This overcomes problems with upfront costs and repayment but would be a large cost to government budget.

⁸² Lowest 20% income quintile

- Partial government subsidies (option 3) combined with long-term zero-interest loans (option 5). This would help with upfront costs and manageable repayments. Savings on energy bills and insurance would offset repayments. These could be managed by a third party like Brighte in the ACT providing a one-stop-shop, including access to preferred suppliers and trades.
- Environmental upgrade finance program (option 8). Local governments offer finance to the property owner to do deep retrofits. The finance is attached to the property and is paid off over 10–15 years via council rates, staying with the property if the owner leaves. The Council acts like a one-stop-shop and managers audit, suppliers and trades.

The preferred model would be establishing an Environmental Upgrade Finance program run through local councils. However more work needs to be done to implement EUFs programs nationally (see recommendation 4). In the meantime support should be provided along the lines of the ACT [Sustainable Household Scheme](#) through a combination of zero-interest loans and subsidies. We believe the ACT scheme could be improved to support more people on low incomes access it by providing free tailored audits and advice (including cost/savings estimates).

Recommendation 7: The Federal Government, in partnership with state and territory governments, establishes a 7-year program to support energy performance (energy efficient, all electric, with rooftop solar) and where needed climate-resilience retrofits, for low-income owner-occupiers, before 2030, by:

Establishing Environmental Upgrade Finance program across councils (recommendation 4) to provide low-cost, long-term on-property finance and additional subsidies.

While the EUF program is being established, provide zero-interest loans, free audits and advice, and subsidies.

The funding for these retrofits could come from the Australian Efficiency and Resilience Retrofit Fund (AERRF), as proposed in recommendation 3.

6.7 Private rental options

People on low-income who are in private rental are the hardest group to reach, yet people experiencing significant disadvantage and on the lowest incomes are in private rental.

As outlined in table 1, the split incentive and power imbalance are major barriers to delivering energy retrofits to low-income tenants in private rental dwellings, with no price signal, incentive, or requirement on landlords to raise the standard of their properties.

There is overwhelming evidence that market forces are not capable of encouraging landlords to improve rental properties' efficiency.⁸³ Even when landlords have been offered free energy efficiency upgrades i.e., the free Home Insulation Program, many declined.

⁸³ Heffernan et al (2021) The Carrot and Stick: Policy Pathways to an Environmentally Sustainable Housing Sector <https://ro.uow.edu.au/cgi/viewcontent.cgi?article=1071&context=balpapers>

Renters generally have no security of tenure and limited rights to make changes to improve the thermal and energy performance or climate-resilience of their homes. Renters must therefore live with the health and economic consequences of energy inefficient and poor resilience homes. Many face the threat of eviction or punitive rent rises if they raise issues with the property.

Without minimum energy performance and climate-resilience rental standards, very few landlords will invest in retrofits, therefore standards must be part of the solution (see Recommendation 9).

Improving the energy performance and resilience of rental properties should be communicated as a responsibility of the owner as part of their wider responsibility as a service provider to provide a safe, healthy, efficient and decent home. In this context, minimum energy performance and climate-resilience standards are simply an updated determination of what is an acceptable standard of housing to ensure the increasing proportion of people renting – often for life- have a home that can sustainably and affordably support their health and wellbeing.

However, we know people are concerned that landlords will increase rents if required to retrofit their rental properties.

We must balance this real concern with the knowledge that landlords already receive very generous tax benefits for owning and managing a property, along with income from the rent.

We believe the Federal Government should put conditional landlord incentives on the table in exchange for states and territories committing to and implementing minimum energy performance and resilience rental standards.

Of the funding and finance options outlined in appendix 3, we are reluctant to support instant write offs and accelerated depreciation (option 12). We are wary of enabling more people to negatively gear⁸⁴ which exacerbates the housing affordability crisis and skews the benefits towards those on higher incomes. Conditions such a cap on rental increases would be challenging to enforce via the tax system.

We instead recommend pursuing option 13, which proposes to change the existing property repairs, maintenance, and capital expenditure tax deduction to require replacement of hot water, heating/cooling, cook tops, and other major appliances to be energy efficient and electric (where previously gas).

As with owner-occupiers above, our preferred model would be establishing an Environmental Upgrade Finance program run through local councils. This option would provide very low-cost and very long-term finance that stays with the property not the landlord. Because costs are recovered from council rates, landlords benefit through existing deductions on council rates.

However more work needs to be done to implement EUFs programs nationally (see recommendation 4). In the meantime support could be provided along the lines of the ACT

⁸⁴ Instant write offs and accelerated depreciation would increase losses against rental income in the short-term enabling a landlord to negatively gear against their other income over the short-term.

[Sustainable Household Scheme](#) through a combination of low or zero-interest loans and conditional targeted subsidies.

Government subsidies could be provided, for example, to early movers or to target low-income private rentals, but should be tied to caps on rent increases linked to CPI for a defined period,⁸⁵.

Funds ideally would be delivered via a special purpose funding vehicle like the proposed AERRF above.

Recommendation 8: The Federal Government should establish a program to support energy performance (energy efficient, all electric, with rooftop solar) and where needed climate-resilience retrofits, for private rental, before 2035, in exchange for state and territory governments implementing minimum energy performance and climate-resilience rental standards. A private rental retrofit program should aim to:

Establish an Environmental Upgrade Finance program across councils (recommendation 4) to provide low-cost, long-term, on-property finance, paid back through rates.

While the EUF program is being established, provide low or zero-interest loans and consider conditional and targeted subsidies, including a cap on rent increases above CPI.

Amend tax laws so that capital works deductions for new or replacement appliances for rental properties are only available for accredited energy efficient and electric appliances.

7. Regulation required to underpin retrofits

7.1 Mandate minimum energy performance and climate-resilience standards for rental properties

Mandatory minimum energy performance and climate-resilience standards will be necessary to deliver retrofits at the scale required.

While work has been underway to develop a national framework for minimum energy performance rental standards through the [Trajectory for Low Energy Buildings](#), progress has been slow and very few jurisdictions have even committing to implement them. In addition, even less work has been undertaken to develop a framework for climate-resilience rental standards.

While it is essential there is an agreed national energy performance (and climate-resilience) rating scheme in place to support minimum energy performance rental standards (NatHERS in-home rating scheme is due to be finalised in mid-2025, see discussion in section 8 below), regulatory impact statements, legislation, and enabling infrastructure for rental standards can be progressed in parallel and be in place by end of 2025.

⁸⁵ In 2021 we advocated for The Federal Government to engage third party(ies) to deliver a targeted rental retrofit program, that would provide free energy audits and for properties housing people n low incomes, the landlord would receive a subsidy to retrofit the property. Under the agreement the landlord would not be able to increase rent within a certain time frame.

Recommendation 9: State and territory governments should quickly introduce minimum energy performance standards for rental properties, by end of 2025 in all jurisdictions, 86 with climate-resilience standards soon after, as part of broader standards for healthy and habitable rental housing.

7.2 Introduce mandatory disclosure of energy performance for all residential buildings.

Australia has an established, nationally consistent energy performance disclosure scheme for commercial office and apartment common areas, but lacks one for detached houses and sole-occupancy unit apartments – most of Australia’s housing stock.

This means that most homeowners, prospective homebuyers, and tenants lack easily comparable information about the energy performance, ongoing energy costs and thermal comfort of their home. Most features that affect climate resilience, energy bills, comfort, and emissions such as insulation or the efficiency of fixed appliances are very difficult for prospective occupants to check. Many houses, even recently built or renovated ones can look very comfortable, but may be expensive and uncomfortable to live in.

Introducing mandatory disclosure requirements at point of sale and lease can provide the information that owners, renters and buyers need to understand the energy performance and climate resilience of homes before investing or leasing. Disclosure at the point of sale can also provide valuable information to prospective home buyers about efficiency and adaptation upgrade opportunities that could be incorporated into post-purchase renovations.⁸⁷

While it is essential there is an agreed national energy performance (and climate-resilience) rating scheme in place to support mandatory disclosure (NatHERS in-home rating scheme is due to be finalised in mid-2025, see discussion in section 8 below), regulatory impact statements, legislation, and enabling infrastructure for mandatory disclosure can be progressed in parallel and be in place by end of 2025.

Recommendation 10: State and territory governments should quickly introduce mandatory disclosure of energy performance ratings for all residential buildings when they are sold and leased, to be operational by 2025, with climate resilience ratings disclosure to be introduced soon after.

7.3 Complementary regulation

Ban new gas connections and phase out existing gas connections

Put in place a strategy and timeline, to end gas connections to new builds, phase out existing gas and support electrification in existing homes with targeted support for people on low-incomes and policies for rental properties, to ensure a fair and inclusive transition.

⁸⁶ See the Community Sector Blueprint on Minimum Energy Efficiency Standards.

<https://www.healthyhomes.org.au/news/community-sector-blueprint>

⁸⁷ See ASBEC briefing note on why mandatory disclosure is important https://www.asbec.asn.au/wordpress/wp-content/uploads/2023/01/National-Disclosure-of-Energy-Performance_ASBEC-Policy-Paper-FINAL.pdf

The ACT Government has banned new gas connections for homes and small businesses which will come into effect from November 2023.

The Victorian Government is implementing a gas substitution roadmap, and recently announced that starting January 1, 2024, there will be a phase out of new gas connections for new dwellings, apartment buildings, and residential subdivisions requiring planning permits.⁸⁸

Other states should follow the ACT and Victoria's lead.

Recommendation 11: Phase out gas in residential buildings by:

- Banning new gas connections to new buildings.
- Investigate a phase out of the sale of gas appliances. Complementary measures will be needed to support people on low incomes to electrify.

Build new housing at higher standard.

While not critical to enabling energy performance and climate resilience retrofits of existing low-income households, the following regulations pertaining to new buildings are also important to ensure future low-income housing is high energy performing and climate resilient.

- Implement the new 7-star NatHERS rating and energy budget in all jurisdictions by the end of 2023.
- Jurisdictions should build all new social housing at 7.5 plus star rating, all electric with renewable-power, and climate-resilient (governments should provide additional funding if needed).
- The next increase in new building standards should aim to achieve zero carbon homes (best practice thermal efficiency, all-electric, powered by renewable energy, and climate-resilient).

8. Rating scheme, measurement tools, verification and certification

8.1 Robust rating scheme

The most important enabler of residential retrofits is to be able to measure, verify and certify the energy performance and climate-resilience of a house. There are quite a few building sustainability rating schemes and tools currently in use in Australia, only a couple are regulated, most are voluntary, and only a few apply to existing homes.⁸⁹

To implement mandatory energy performance and climate resilience disclosure regime and minimum rental standards, a single, robust rating scheme for energy performance and one for climate-resilience consistently applied across the country is critical to provide consumer

⁸⁸ https://www.planning.vic.gov.au/guides-and-resources/strategies-and-initiatives/victorias-gas-substitution-roadmap#:~:text=buildings%20by%202025,-_Phasing%20out%20new%20residential%20gas%20connections,Provisions%20and%20all%20planning%20schemes

⁸⁹ ASBEC (2021) [Rating snapshot: Built environment sustainability framework commonly used in Australia.](#)

confidence and protection when buying, selling and renting a home. It would enable the production of robust comparable data, meaningful energy performance and climate-resilience targets for residential buildings, and unlock sustainable finance markets to drive energy performance and adaptation improvements.

Energy performance rating scheme

The Nationwide House Energy Rating Scheme (NatHERS) is a nationwide rating **scheme** and currently provides energy ratings for new dwellings. It's recently been expanded to 'whole of home' including major appliances, solar panels and batteries to measure energy use (scored out of 100) in addition to the star rating for the thermal shell of the home (score out of 10 stars).

However, NatHERS is not designed to rate the energy performance of existing homes. Work is underway to develop NatHERS in-home rating scheme for existing homes and is estimated it will be available in mid-2025 after trials throughout late 2023 and 2024.⁹⁰ NatHERS in-home should be the rating scheme used for mandatory disclosure and minimum energy performance rental standards (see section 7 above).

CSIRO is developing a 'benchmark tool' aligned with NatHERS in-home for rating existing homes, which all other tools will be tested against.

The National Residential Efficiency Scorecard, which builds on the Victorian Governments state-based program, is a rating **tool** that is available now for home assessments and tailored recommendations for improvements. While endorsed by NatHERS, the Scorecard is not currently accredited under NatHERS and cannot provide a NatHERS assessment.

The National Residential Efficiency Scorecard, along with other tools, should continue to be used on a voluntary basis to do home assessments and recommend upgrades.

But it is important the work on NatHERS in-home is accelerated and becomes the scheme for disclosure and rental standards. Once accredited under NatHERS, the National Residential Scorecard and other tools can be utilised for assessments, upgrade recommendations and certification under regulation.

Climate-resilience rating scheme

Currently there is no single climate-resilience rating scheme, and only a few rating tools.

The Green Building Council Australia has a rating tool called Green Star Homes, where climate-resilience is one of three categories: Positive, Healthy, and Resilient. It is currently primarily focused on new homes.⁹¹

The Resilient Building Council (RBC)⁹² is developing a multi-hazard integrated Disaster and Energy Efficiency Resilience Rating and certification assessor app – jointly funded by the Federal and NSW Governments and developed in partnership with the Insurance Council of Australia. The Resilience Ratings provide an independent global standard to measure, rate and reward resilience (and energy efficiency). The Disaster and Energy Efficiency Resilience Ratings will provide a single home assessment, customised integrated adaptation and energy efficiency

⁹⁰ <https://www.nathers.gov.au/InHome>

⁹¹ <https://new.gbca.org.au/green-star/rating-system/homes/>

⁹² <https://rbccouncil.org/>

recommendations and ratings certification capability for bushfire, storm, flood, cyclone, heatwave and thermal comfort, as well as energy efficiency.⁹³ It will provide households with a list of evidence-based, tailored actions to adapt their home, improve and verify their resilience rating, in order to support industry initiatives, grants programs or advertising of Resilience Ratings when selling or leasing a property. The Resilience Ratings system also has the potential to give insurers, banks and investors a framework for financing and rewarding resilience adaptations. The first stage was released in October 2023, through the free Bushfire Resilience Rating Home Self-assessment app.⁹⁴ The integrated tool will be launched by mid-2024.

Further work needs to be done to create single climate-resilience rating scheme that can be regulated and utilised in mandatory disclosure and rental standards.

Recommendation 12: To accelerate the introduction of minimum energy performance standards for rental properties and mandatory disclosure, the federal government should:

- Urgently finalise and implement a single national residential building energy performance rating scheme – NatHERS in-home.
- Create a single climate-resilience residential building rating scheme.
- Work with public and community housing providers to test and finalise the two schemes.

8.2 Verification and certification

A mandatory verification and certification system should be established to support transparency, assurance, compliance and data gathering. This will be important to:

- Provide investors/lenders/insurers with appropriate information and data to meet their terms for providing finance and/or insurance.
- Enable governments to track data to monitor emissions reductions and other targets that might be set.

In the case of implementation of regulation to mandate minimum energy performance and climate-resilience standards for rental properties, verification and certification will enable demonstration of compliance with the regulation. It should not rely on renters or replace additional responsibility on renters.

In the case of implementation of regulation to mandate disclosure on sale or lease of the property, it should give buyers and renters confidence in the accuracy of the energy performance and climate-resilience of the home.

To maximise transparency, provide accurate data collection, and provide high level of confidence standards and targets are being met, we would recommend the system be set up to:

⁹³ The energy efficiency component of the Resilience Rating system will be aligned with NatHERS in-home.

⁹⁴ <https://rbcouncil.org/resilience-ratings/>

Step 1 – Obtain an energy performance and climate-resilience assessment by a trained assessor to demonstrate the property already meets the proposed ‘standard’ or make assessment and recommendations of modifications required to achieve a particular ‘standard’.

Step 2 – Either obtain a follow-up energy efficiency and climate-resilience assessment by a trained assessor, who returns to the property once the upgrades are made and provides an updated assessment confirming the required standard has been met or a **homeowner could provide proof of purchase and implementation** and submit these along with the original assessment to demonstrate compliance.

We recommend an online registration system be created to provide transparency, collect data and issue certification. Submission of assessment and/or proof of purchase and installation, to obtain certification could either be done by the assessor or the homeowner.

There should be penalties for non-compliance or fraudulence in the case of regulation or breaching terms of agreement with lenders and/or insurers.

This system would create more transparency and confidence in the system, provide a pathway to access subsidies, and dramatically reduce the opportunity for non-compliance or misrepresentation.

This process could be part of a service provided by a one-stop-shop provider.

The verification and certification process can be developed and tested as part of the Government's initial investment in retrofits for social housing.

Safeguards should ensure that the responsibility for compliance sits with property owners, rather than prospective buyers or renters.

Recommendation 13: Establish a transparent verification and certification process to support data collection, ensure compliance, and provide confidence to homeowners, landlords, lenders and insurers support implementation and financing of retrofits.

9. One-stop-shop needed to drive energy performance and climate resilience retrofits, including for low-income housing

There was consistent feedback from stakeholders that establishing a single touch or one-stop-shop would be a game changer in Australia to scale up energy performance and climate-resilient retrofits.

A one-stop-shop is a virtual and/or physical place where homeowners or landlords can find all the information and services, they need to implement energy performance and climate-resilient retrofits.

International research has found that having a “one-stop-shop” to provide impartial information, advice and support that is easy to access and understand could help to overcome the barriers that people face in moving to sustainable technologies while also:⁹⁵

- Providing a trusted source of appropriate, tailored information and support, including what’s required, what incentives and finance options are available, where to find assessors and trades.
- Supporting people to assess their options, make decisions and implement changes.
- Forging links across the supply chain including between building owners, local authorities and installers.
- Vetting for quality assurance and safety.
- Supporting the verification and certification process.

Table 3 below draws on international research to outline four different types of one-stop-shop business models. All models have merit.

In Australia, organisations like [Brighte](#) are providing a one-stop-shop service as they deliver government programs such as the [ACT Sustainable Household Scheme](#). Brighte provides an online service including:

- Information on products available in the program, including finance and funding options available.
- Allowing customers to find suitable and pre-approved suppliers and pay the tradesperson.
- Managing the funding and finance repayments as well as customer supports.
- Hosting information sessions and facilitating access for consumers to sustainable home content.

Local councils who administer the Solar Savers Program and the Environmental Upgrade Finance (EUF) program, also act as a form of one-stop-shop. Depending on the council and the program, this includes providing financial support, access to products and trades and repayment mechanisms. Councils are ideal to act as one-stop-shops as they are experienced in tailoring and communicating information to suit local community needs.

Some community service organisations, like Uniting Communities, provide home energy retrofit services to low-income households including free energy audits and support with energy performance upgrades. The advantage of community service organisations providing one-stop-shops services is they can provide additional supports to assist low-income households to improve energy affordability, stay healthy and safe.

⁹⁵ <https://www.economy-ni.gov.uk/sites/default/files/consultations/economy/Consultation-energy-one-stop-shop-implementation-plan.pdf>

The Victorian Government announced in October 2023 that through the State Electricity Commission it will establish a trusted ‘one-stop-shop’ for Victorians.⁹⁶ It will pilot household solutions starting from 2024 to help take the guesswork out of the process and stepping people through the switch away from expensive fossil gas.

Analysis of European one-stop-shops finds that ‘public’ models (government, local government, not-for-profit) appear to operate more effectively in the renovation market than private enterprises ones, offering services that are considered crucial by customers,⁹⁷ and being able to offer cheaper financing and subsidies. Trust, accountability and building customer relationships were important across both public and private models.

We recommend The Federal Government work with states, territories and local councils to establish one-stop-shop models in Australia.

Table 3 One-stop-shop business models⁹⁸

Business Model	Roles and responsibilities	Practical Example of what the one-stop-shop offers owner occupiers and landlords.
1.Facilitation model	<ul style="list-style-type: none"> • Raise awareness of energy renovation benefits. • Provide general information on optimal renovation works. • First advice at the ‘orientation stage’. • Host verification and certification process. 	It advises on how to renovate your house and can provide you with the list of suppliers.
2.Coordination model	<ul style="list-style-type: none"> • Coordinate existing market actors (suppliers). • Make sure all one-stop-shop services are offered to homeowners. • No responsibility for the result of renovation works (only overlooking the whole process). • No responsibility for the overall customer journey (just the first part). • Host verification and certification process. 	It advises on how to renovate your house and will push suppliers to comply with relevant commitments and standards. Suppliers remain responsible for the final result.
3.All-inclusive model	<ul style="list-style-type: none"> • Offer a full renovation package to property owners. • Bear responsibility for the result of renovation works. 	The one-stop-shop is a contractor that sells you the whole service package and is your main contact point in

⁹⁶ <https://www.premier.vic.gov.au/sec-back-accelerating-victorias-renewable-future>

⁹⁷ Georgios Pardalis, Krushna Mahapatra, Brijesh Mainali (2022) [Comparing public- and private-driven one-stop-shops for energy renovations of residential buildings in Europe](#), Journal of Cleaner Production, Volume 365.

⁹⁸ Cicmanova, J., Maraquin, T., and Eisermann, M. (2020) [How to Set Up a One-Stop-Shop for Integrated Home Energy Renovation: a step-by-step guide for local authorities and other actors](#).

	<ul style="list-style-type: none"> • Bear responsibility for the overall customer journey including verification and certification. 	case something goes wrong with suppliers.
4. Energy Service Company (ESCO)-type model	<ul style="list-style-type: none"> • Offer a full renovation package with guaranteed energy savings to homeowners. • Bear responsibility for the result of renovation works. • Bear responsibility for the overall customer journey including verification and certification. 	The one-stop-shop sells you the renovation package and guarantees the energy savings for the contract duration. The one-stop-shop is paid through energy savings achieved.

Recommendation 14: The Federal Government provides incentives to support the creation of ‘one-stop-shops’. That is, a place where households can go (with access to culturally and linguistically diverse information and services) to find out information on what are the benefits of retrofits, what retrofits are needed, what incentives if any are available, how to go about retrofits, help access assessors and trades, and how to demonstrate compliance, and other relevant information and supports to improve energy affordability, health and wellbeing.

10. Building a healthy workforce and efficient supply chain

Energy performance and climate-resilient retrofits will increase demand for new and existing products and construction materials, which will pose challenges for already tight supply chains. However, there is opportunity for new manufacturing to supply growing domestic and global markets, business, and new jobs in Australia as a result.

There will also be a proportionate increase in demand for appropriately skilled workers to deliver upgrades safely and to a high quality. At present, we don’t have enough appropriately skilled people to deliver the massive scale of energy performance and climate-resilience retrofits needed. This presents an opportunity to target and support employment for First Nations communities, marginalized communities and people unemployed long-term.

Despite labour shortages in some sectors, 600,000 people have had to rely on unemployment payments for more than a year. The recently released report of the House of Representatives Select Committee on Workforce Australia recommends that Governments increase employment and training opportunities for these workers through Social Procurement Guidelines and national wage subsidy and training programs.

The Federal Government is already undertaking a number of actions to address the above,⁹⁹ including:

⁹⁹ National Energy Performance Strategy: [Consultation Paper, Australian Government Department of Climate Change, Energy, the Environment and Water](#)

- Energy Ministers have committed to assessing the supply chain needs and included the clean energy supply chain as a priority theme under the National Energy Transformation Partnership.
- The Government is committed to growing local manufacturing capabilities and will work closely with domestic appliance manufacturers.
- The Government has committed \$95.6 million over 9 years from 2022–23 for 10,000 new energy apprentices to build the clean energy workforce.
- The Government has also set aside \$9.6 million over 4 years from 2022–23 for a New Energy Skills Program to provide additional training pathways.
- Jobs and Skills Australia will develop a Clean Energy Capacity Study, providing evidence and insights to support Australia’s clean energy sector workforce.

However, government investment to do deep and accelerated retrofits in low-income housing, presents an opportunity to:

- Put in place criteria around social diversity and inclusion for training, employment and local job creation.
- Support new business development and fledgling manufacturing.
- Build the skills and workforce needed to meet demand of the rest of the market.

We would also like to see the government fund and deploy an implementation plan alongside the National Energy Workforce Strategy that outlines a clear pathway to bridge the gap between the number of clean economy workers we have now, and what we need to realise our 2030 and 2050 emissions reduction goals, and to deliver on energy performance and climate resilience retrofits. The plan should:

- Provide quality, accessible and affordable education, training and re-skilling opportunities targeting people unemployed long-term and others who are marginalised in the labour market.
- Promote meaningful employment in quality jobs with career prospects and take action to reduce casual, low-paid jobs and exploitative employment behaviours. Prioritise avenues to improve diversity and provide meaningful employment for marginalized groups and long-term unemployed.
- Ensure clean job creation meets the needs of local communities, including by targeting jobs for groups who are long-term unemployed, through local employment and skills development partnerships,¹⁰⁰ paid work experience and training for trades assistants.
- Be aligned with Closing the Employment Gap targets for First Nations people.

¹⁰⁰ ACOSS (2020) [Local employment and skills development partnerships](#)

Recommendation 15: The Federal Government directly invest in deep and accelerated retrofits for low-income housing and utilise this investment to:

- Support new business development and local manufacturing.
- Support training and job creation in local communities.
- Support training and upskilling for First Nations people, marginalized groups, women and long-term unemployed.
- Promote meaningful employment for people unemployed long-term, First Nations people, people with disability, and others marginalised in the labour market, including through social procurement guidelines and employment and training programs targeting those groups.

Appendix 1 – Workshop and consultation stakeholders

The views expressed in this report do not necessarily reflect the views of those who attended the workshops or participated in further consultation in the development of this report.

ACOSS would like to thank Bruce Precious from Six Capitals Consulting for facilitating the workshops.

Australian Impact Investors
Conscious Investment Management
Australian Sustainable Finance Initiative
Bank Australia
Australian Banking Association
Bright Light
Brighte
Better Building Finance
ANZ
HESTA
Impact Investment Partners
Climate Bonds Initiative
PIAC
VCOSS
SACOSS
BSL
CHIA National
CHIA Victoria
St George Housing
CHC Australia
ACHIA
Good Shepherd
ARENA
Australian Energy Regulator
Clean Energy Finance Corporation
Energy Networks Australia
Green Building Council
Energy Efficiency Council
Property Council
Smart Energy Council
Clean Energy Council
Resilient Building Council
Rewiring
Department of Climate Change Energy, Environment and Water
NSW Department Energy and Climate Change
NSW Treasury
Sustainability Victoria
SA Department of Mines and Energy
Indigenous Business Australia

Boom Power
National Renewable Network
Climate Works
The Grattan Institute
Race for 2030 (UTS)
Climate-KIC
Merri-Bak Local Council
Paul Ramsay Foundation

Appendix 2 – Retrofit mechanisms across Jurisdictions ¹⁰¹

This was produced as of December 2023. All efforts were made to report relevant programs but may not be comprehensive and noting new announcements are inevitable and welcome.

Joint jurisdictional

The [Trajectory for Low Energy Buildings](#) is a national joint jurisdictional plan agreed in 2019, that aims to achieve zero energy and carbon-ready commercial and residential buildings in Australia. It is a key initiative to address Australia's 40% energy productivity improvement target by 2030 under the [National Energy Productivity Plan \(NEPP\)](#).

However, many of the workstreams under this plan have either been delayed or have had very little progress.

Federal Government

- In the 2023–24 Budget, the Australian Government allocated \$1.3 billion to establish the Household Energy Upgrades Fund.
 - The Clean Energy Finance Corporation will have \$1 billion to partner with banks and other lenders to offer low-cost finance and mortgages for energy performance upgrades to more than 110,000 homes. Loans will be available to upgrade homes with battery-ready solar PV, modern energy-efficient appliances and other improvements.
 - The Fund also sets aside \$300 million for upgrades to around 60,000 social housing properties, to save tenants money on their energy bills. The upgrade program will be co-funded and developed with state and territory governments.
- In addition, \$36.7 million was allocated towards expanding and modernising NatHERS and GEMS program to make it easier for consumers to improve their energy performance of their households.
- The No Interest Loans Scheme is a federally funded program administered by Good Shepherd to provide no interest loans of up to \$2,000 for household appliances.
- The Federal Government announced on the 21 April 2023 the establishment of a [Green Bonds program](#). The program will be managed by the Australian Office of Financial Management and is slated to begin in mid-2024 following the development of a Green Bonds Framework and engagement with investors.
- The Federal Government is working to deliver industry training to improve the knowledge and skills of key building and trades professionals. This training helps industry implement

¹⁰¹ This section draws heavily on the report produced by Monash University (2023) [Switching on: benefits of Household Electrification in Australia](#).

energy efficiency improvements and provide households with access to energy saving products. For a range of training resources see the [Energy efficiency training](#) page.

Australian Capital Territory

- In November 2023, the ACT government announced jointly with the federal government a \$35.2 million partnership to provide electrification and energy efficiency upgrades to 5,000 social housing properties.
- The phase-out of gas connection is underway in the ACT, with plans for a complete phase out of gas use by 2045 alongside proposed legislation to ban new gas connections from late 2023.
- The [Sustainable Household Scheme](#) provides:
 - zero interest loans of up to \$15,000 for households to install solar, batteries, high efficiency electric appliances, insulation, electric vehicles and chargers.
 - Rebates of up to \$2,500 for the installation of rooftop solar and \$2,500 for reverse cycle air conditioning, hot water heat pumps and electric cooktops for concession card holders.
- Energy Efficiency Improvement Scheme (EEIS) is a program to reduce greenhouse gas emissions and energy consumption by households. The scheme requires the ACT's largest energy retailer, ActewAGL, to offer discounts on energy-efficient electric appliance upgrades, including the replacement of gas appliances with electric. Households who live in public housing have received these appliances cost-free.
- Clear information for residents is provided by the ACT government in a simple-to-follow format for those seeking to electrify their home. Choice has provided [a user-friendly tool which advises on high quality electric appliances and estimates cost savings](#).

Victoria

- The Victorian Government have produced the [Gas Substitution Roadmap](#) to chart a path to electrify the residential sector. This is underpinned by programs which will enable greater household electrification. The plan includes a change to Victoria's planning rules that phases out gas use by requiring new homes constructed from 1 January 2024 to be fully electric.
- [Solar Victoria](#) provides rebates of up to \$1,400 for solar panels, \$1,000 for heat pump hot water systems, \$2,950 for battery storage systems, and \$3,000 for new zero emissions vehicles. The program is targeted to benefit homeowners as well as renters and community housing providers, with dedicated streams for each. Solar Victoria also provides zero-interest loans.
- [Victorian Energy Upgrades](#) is a government energy efficiency program that provides discounts on energy saving products. The program has supported households to upgrade appliances and equipment to reduce bills and emissions. The program has

been adjusted in 2023 to support the electrification of households and remove support for gas.

- The Social Housing Energy Efficiency upgrades program \$158 million¹⁰² to support a range of cost-effective energy efficiency upgrades for 35,000 public, community and First Nations housing properties to replace inefficient gas appliances with efficient split system air conditioners, hot water heat pumps, draught sealing, and insulation.

New South Wales

- In January 2024, the NSW government announced jointly with the federal government a \$175 million over 4 years, partnership to provide electrification and energy efficiency upgrades to 24,000 social housing properties.
- The Solar for Low Income Households Rebate Swap helps eligible low-income households to install a free three-kilowatt solar system to reduce their electricity bills. Households must also agree to a number of conditions, including to stop receiving the Low-income household Rebate for 10 years. An alternative for households (that are not suitable for solar) is available in the form of a rebate swap for energy upgrades valued up to \$4,000.
- The Community electrification pilot scheme, worth \$8 million, provides funding to trial decarbonising across local urban, regional and remote communities in NSW. One of the goals of the program is to identify cost-effective ways to upgrade existing homes with electric and energy-efficient appliances and technologies, via a competitive process to partner with the private sector.
- [Energy Security safeguard:](#)
 - The Energy Savings Scheme (ESS), NSW' largest energy efficiency program, is due to run until 2050. This scheme provides households with financial incentives to improve the energy efficiency of their appliances. The ESS sets an energy savings target for electricity retailers and large users, who then meet their target by creating or purchasing energy savings certificates (ESCs) for eligible activities, such as the purchase of a more energy-efficient appliance.
 - The Peak Demand Reduction Scheme (PDRS) aims to reduce energy demand during peak hours by setting a peak demand reduction target for electricity retailers and large users. Similar to the ESS, retailers and large users create or buy peak reduction certificates (PRCs) for eligible activities to meet their targets. This results in reduced energy usage during peak demand periods, such as replacing an existing hot water boiler or water heater with an air source heat pump water heater system.

These schemes are less effective at supporting low-income households.

South Australia

- [The Retailer Energy Productivity Scheme \(REPS\)](#) provides incentives for South Australian households and businesses to save energy. To do so, the Minister for Energy and Mining

¹⁰² The initial fund was \$112 million and was expanded with a \$46 million contribution from the Federal Government.

sets energy productivity targets (EPTs) for electricity and gas retailers. And, to achieve these targets, retailers under the Scheme offer incentives to households and businesses to achieve energy productivity through actions such as installing energy efficient lighting, water-efficient shower heads, or saving on water heating costs. Targets have been included for low-income households.

- [Solar PV and batteries for public housing residents](#) will lead to 4,100 Housing South Australia properties receiving solar PV and batteries to save money on their power bills.

Tasmania

- In January 2024, the [Tasmanian government](#) announced jointly funded program with the federal government and community housing providers of \$16.6 million to provide electrification and energy efficiency upgrades to 1,600 social housing properties.
- The Energy Saver Loan and Subsidy Program, run in partnership with Aurora Energy and No Interest Loans (NILS) Tasmania, assists low-income households to reduce their electricity bills and enable them to purchase energy efficient products. The Tasmanian Government is providing an additional \$1 million to expand the provisions of no interest loans to 2023–24, enabling further loans to be provided to Healthcare Card recipients. The NILS program provides a subsidy of up to 50% toward the cost of purchasing new energy-efficient appliances, in conjunction with the no-interest loans scheme.
- Public housing heating and energy efficiency initiatives provides \$15 million to increase energy efficiency of public housing tenants by:
 - Substituting energy efficient heat pumps for inefficient direct electric heating and gas heating in all public housing stock.
 - Substitute ageing standard electric hot water systems for new heat pump hot water cylinders in public housing stock.
- Energising Tasmania, established in 2019, serves as the foundation for Tasmania's energy sector workforce. As part of this initiative, the Workforce Development Plan for the Tasmanian Energy Sector (Stage 1) was created in December 2020. The plan outlines the skills, training, and employment requirements for significant energy projects over the next seven years and informs relevant programs and activities aligned with the goals of the Energising Tasmania agenda. This plan also includes a Training Fund available to Endorsed Registered Training Organisations to deliver fully subsidised training for energy, infrastructure and related sectors; a Training Market Development Fund supporting training system capability to meet the needs of the energy and infrastructure workforce; and a Workforce Development Fund supporting energy and infrastructure workforce projects.

Queensland

- A Climate Smart Energy Savers rebate for eligible Queenslanders who replace old appliances with 4 star-rated (or higher) energy-efficient appliances and hot water

systems, with a higher rebate for people on low-incomes (available between 4 September 2023 and 4 December 2023).

- The Queensland Government via the [Household resilience Program](#) provides a means tested grant for owner-occupiers who live in a house built before 1984, located within 50km of the coastline from Bundaberg to the Queensland/Northern Territory border, of 75% of the cost of improvements to improve the resilience of homes against cyclones (up to a maximum of grant value of \$11,250 including GST).

Northern Territory

- The Home and Business Battery Scheme offers grants of \$450 per kWh of capacity up to a cap of \$6,000 for household battery systems.

Western Australia

- The Smart Energy for Social Housing plan encompasses \$6 million worth of solar panels installed on 500 social housing properties in Western Australia between 2020 and 2024, cutting tenant energy bills by 20%.
- [Battery Storage Systems for regional towns](#) involves a \$31 million project that is enabling an additional 10MW of rooftop solar to be installed on regional households by improving grid stability. The changes will help regional households and businesses connect solar systems and cut average bills by \$1,275.
- The Energy Ahead program (formerly Household Energy Efficiency Scheme) is a program being administered by Anglicare WA on behalf of Financial Wellbeing collective, to improve energy efficiency via appliance upgrades, in up to 9,000 homes of people experiencing hardship.
- The Electrification plan of Esperance, despite the lack of a clear program, has delivered a notable initiative with full electrification. The Western Australian Government committed \$10.5 million to shut down the gas network and replace the gas appliances of 379 customers with energy efficient electric replacements in 2023.

Local Councils

Various local councils around Australia also provide targeted programs to help households access energy performance measures.

More information can be found at:

<https://solarsavers.org.au/about-solar-savers/>

<https://citiespowerpartnership.org.au/>

<https://councilmagazine.com.au/>

Appendix 3 – Analysis of finance and funding options for low-income housing energy performance and climate-resilience retrofits

Key: OO=Owner-Occupier, PR=Private Rental, CH=Community Housing, PH=Public Housing

Name	Description, pros and cons	Tenure Type				Recommendations
1. Government raises sustainable bonds (green, social, sustainability ad sustainability linked bonds)	<p>Sustainable bonds are used to access long-term lower cost debt.</p> <p>Green bonds, for example, are bonds that are used to finance projects that offer climate change and environmental benefits, and are usually issued at a lower rate and over a long period of time because of their social and environmental “benefits”.</p> <p>Federal or state and territory governments could raise sustainable bonds to reduce their overheads and underwrite or guarantee finance to support other public and private investment in retrofits.</p> <p>This, for example, could provide lower-cost finance than what the Clean Energy Finance Corporation (CEFC), banks and third-party investors are currently offering. The Federal Government can help those states or territories unable to access sustainable bonds to reduce the overheads of their offerings of no or low interest loans or subsidies for retrofits.</p>	✓	✓	✓	✓	<p>Pursue</p> <p>The Federal Government announced on the 21 April 2023 the establishment of a Green Bonds program.¹⁰³ The program will be managed by the Australian Office of Financial Management and is slated to begin in mid-2024 following the development of a Green Bonds Framework and engagement with investors.</p> <p>The Green Bonds program should accelerate the issuance of green bonds to support energy performance and climate-resilience retrofit programs, prioritising programs to fund and finance retrofits for low-income housing.</p>

¹⁰³ <https://treasury.gov.au/policy-topics/banking-and-finance/green-bond-program>

	<p>Case study: In 2021, the Victorian Government became the first Government in Australia to issue a green bond, with a proportion of the funds being used to incentivise low carbon buildings.</p>				<p>Having good measurement, verification and certification processes will be an important part of a successful Green Bonds program.</p>
<p>2. Governments provide full funding</p>	<p>Governments would fully fund energy performance and climate resilience retrofits.</p> <p>Funds could be provided through grants and subsidies.</p> <p>Depending on tenure type the funds may need to support project management in addition to the costs of products and installation.</p> <p>Case study: In NSW, some public housing has had energy performance retrofits, fully funded by the State Government.</p> <p>Positives</p> <ul style="list-style-type: none"> • Addresses barrier relating to upfront costs and affordability. • Overcomes the split incentive. • Could accelerate and/or fund deep both energy performance and climate-resilience retrofits with appropriate funding levels. • Kick starts the market and builds supply chain. <p>Negatives</p> <ul style="list-style-type: none"> • Limited by government budget decisions. • Costly if applied across all tenure types, especially if other funding and finance models could achieve the outcomes. 	<p>○</p>	<p>✗</p>	<p>✓</p>	<p>Pursue – for public housing; First Nations community-controlled housing; in the first instance.</p> <p>Further consideration – should be given to whether full funding is needed for low-income owner occupiers or whether a combination of partial funding via subsidies and other financing like zero-interest loans (option 5) or EUFs (option 8) might be more sustainable.</p> <p>Not pursue – for private rental as landlords already receive government support through negative gearing and other tax incentives, along with rental income.</p> <p>Explore – see option 5 below for a suggestion on how to increase quantum using non-government contributions to support accelerated and deeper retrofits and reduce reliance on government funding.</p>

	<ul style="list-style-type: none"> • Would create inequity if private landlords were given full subsidies as most already get tax incentives through negative gearing and rebates on maintenance. 					
<p>3. Governments provide partial funds</p>	<p>Governments would partially fund energy performance and climate resilience retrofits.</p> <p>Funds could be provided through grants and subsidies.</p> <p>Depending on tenure type, the funds may need to contribute to project management in addition to the costs of products and installation.</p> <p>Case study: The Queensland Government via the Household resilience Program provides a means tested grant for owner-occupiers who live in a house built before 1984, located within 50km of the coastline from Bundaberg to the Queensland/Northern Territory border, of 75% of the cost of improvements to improve the resilience of homes against cyclones (up to a maximum of grant value of \$11,250 including GST).</p> <p>Positives</p> <ul style="list-style-type: none"> • Reduces, but not eliminates, barriers relating to upfront costs and affordability. • It has less impact on government budget than fully funding. • More appropriate for private landlords • Helps kick start the market. <p>Negatives</p>	○	○	○	✗	<p>Further consideration</p> <p>Owner-Occupier:</p> <ul style="list-style-type: none"> • Subsidy for low-income owner occupier would still need to be generous. As people on low-fixed income have little if any spare cash to contribute to upfront costs. • Research shows greater take up if done in conjunction with zero-interest loan (option 5) or EUFs (option 8) • <p>Private Rental:</p> <ul style="list-style-type: none"> • Could be done in conjunction with minimum energy performance and climate-resilience rental standards as an incentive to reduce some of the costs, where full funding retrofits on top of existing tax incentives and rental income is seen as overly generous. • A more generous subsidy could be used to incentivise early movers before minimum energy performance and climate-




	<ul style="list-style-type: none"> Not suitable for social and affordable housing as the remaining short fall would need to come from renters, who are already struggling with rent and other high cost of living impacts. 					<p>resilient rental standards are in place.</p> <ul style="list-style-type: none"> Subsidies should be done in conjunction with a cap on rent increases above CPI (for a period). Subsidy could be less if done in conjunction with low-interest loans (option 6), zero-interest loans (option 5) or EUFs (option 8) <p>Not pursue for public housing and First Nations community-controlled Housing, where full funding will be necessary (Option 2 preferred).</p>
<p>4. Government provides rebates</p>	<p>Rebates are generally provided after the upfront costs have been paid for and appropriate evidence provided. This mechanism is not ideal for low-income households where the ability to pay upfront costs is limited.</p> <p>However, rebates may be effective if provided in conjunction with zero-interest loans where the rebate effectively reduces the size of the loan, or a third party manages the rebate, and no up-front investment is required.</p> <p>Case study: The Victorian Government offers a number of rebate programs including a solar panel rebate for homeowners, solar panel rebate for rental properties, and solar hot water rebate.</p>	○	○	✗	✗	<p>Further consideration</p> <p>Owner-occupier when done in a way where upfront payment is not required.</p> <p>Private landlords:</p> <ul style="list-style-type: none"> Done in conjunction with minimum energy performance and climate-resilience rental standards as an incentive to reduce some of the costs, where full funding retrofits on top of existing tax incentives and rental

						<p>income is seen as overly generous.</p> <ul style="list-style-type: none"> • A more generous rebate could be used to incentivise early movers before minimum energy performance and climate resilient rental standards are in place. • Rebates should be done in conjunction with a cap on rent increases above CPI (for a period). • Rebate could be less if done in conjunction with low-interest loans (option 6), zero-interest loans (option 5) or EUAs (option 8) <p>Not pursue for public and community housing.</p>
<p>5. Zero-interest loans</p>	<p>Government (federal, state or local) or lender provides zero-interest loans, this eliminates the need to pay up front costs and reduces cost of repayments for people on low-income.</p> <p>Case study 1: The ACT government through the ACT Sustainable Household Scheme provides zero-interest loans of between \$2,000 to \$15,000 to access solar systems, battery storage, efficient electric stove tops, electric heating and cooling systems, hot water heat pumps and ceiling insulation, to eligible ACT households, with up to 10</p>	<p>✓</p>	<p>○</p>	<p>✓</p>	<p>✗</p>	<p>Pursue</p> <p>Community Housing if full funding is not provided.</p> <p>Low-income owner occupier</p> <ul style="list-style-type: none"> • If not using an EUF (option 8) • Energy savings must outweigh repayments. • If done in conjunction with subsidy to reduce overall costs,

	<p>years repayment. To assist with reducing the loan size, Pensioner Concession Card, Department of Veterans' Affairs Gold Card holders and Health Care Card holders may also be eligible for rebates on rooftop solar installation and other energy efficient products as part of the Home Energy Support program. The program is administered via a third party, Brighte, which manages the finance and provides support to access products and trades. The third party does not charge an administration fee (a late payment fee applies). ACTCOSS notes that there is fairly low take-up by low-income households and recommends providing free tailored audits and advice, including an estimate of cost and savings.</p> <p>Case study 2: More than 20 councils in Victoria are part of a Solar Savers program. Some councils provide zero-interest loans to install solar on eligible homes.¹⁰⁴ Councils organise suppliers and installation. The re-payments are made via council rates. Some councils are extending the program to include reverse cycle air conditioners, heat pumps and induction cooktops. Others, like Merri-Bek City Council, also offer rebate/subsidies for low-income owner occupiers to lower the costs. The councils could access lower-cost finance than say banks because they can access bonds through Municipal Association of Australia. Further savings can be made because local councils can use a tender process to access more affordable products and do not have to pay GST on goods. Note that these sorts of zero-interest loans have to be administered via a 'special rates</p>				<p>especially if the loan repayments cost more than savings (this will depend on amount of the loan, loan period, and energy savings)</p> <p>Further consideration needed for private rentals:</p> <ul style="list-style-type: none"> • If not using an EUF (option 8) • Done in conjunction with minimum energy performance and climate-resilience rental standards. <p>Not relevant for public housing, because funding for retrofits comes directly from government.</p>
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¹⁰⁴ Some Councils do not offer zero-interest loans and instead run bulk buys and make cheaper solar accessible to anyone in the community.

	<p>charge', which requires approval at council meetings. This can be administratively intense for councils.</p> <p>Case study 3: The Victorian Government's Solar Rebates for Rental Properties program offers eligible rental providers rebates (up to \$1,400) and interest-free loans for installing solar panels. This program also includes the option of a co-contribution from renters.</p> <p>Positives</p> <ul style="list-style-type: none"> ▪ Addresses upfront cost. ▪ Addresses access to affordable finance. ▪ Encourages deeper retrofits and is scalable. ▪ Suitable for landlords and owner-occupiers. ▪ Requires little government funds. <p>Negatives</p> <ul style="list-style-type: none"> ▪ Depending on the length of the loan, the loan repayments may be greater than the energy savings putting people on low incomes under greater financial pressure. For example, the Tasmanian Energy Savers Loan Scheme loan terms are only up to 3 years. The short-term nature of the loan will make it unlikely that energy bill savings will be greater than the repayments on a \$10,000 loan, resulting in out-of-pocket expenses for people on low incomes. 					
<p>6. Low-interest loans</p>	<p>Government (federal, state or local) or lender provides low-interest loans, this eliminates the need to pay up front costs and lowers the cost of repayment compared to commercial loan rates.</p>	<p>✗</p>	<p>✓</p>	<p>○</p>	<p>✗</p>	<p>Not relevant for public housing</p> <p>Not pursue for low-income owner-occupier and First Nations</p>

	<p>Case study: The \$1 billion Household Energy Upgrades Fund will partner with banks and other lenders to offer low-cost finance and mortgages for energy performance upgrades to more than 110,000 homes. Loans will be available to upgrade homes with battery-ready solar PV, modern energy-efficient appliances and other improvements, creating more comfortable homes that waste less energy.</p> <p>Positives</p> <ul style="list-style-type: none"> ▪ Addresses upfront cost. ▪ Addresses access to affordable finance. ▪ Suitable for landlords. ▪ Requires little government funds. <p>Negatives</p> <ul style="list-style-type: none"> ▪ The loan repayments likely to be greater than the energy savings putting people on low-income under greater financial pressure. ▪ May not be enough “savings” from climate-resilient retrofits. ▪ Does not address barriers for low-income owner-occupiers. 				<p>community-controlled Housing, as repayments will be unaffordable.</p> <p>Could pursue for private landlords.</p> <p>Further consideration for Community Housing if zero-interest loans are not available.</p> <p>Note: unlikely to be suitable for funding climate-resilience retrofits where ongoing ‘savings’ are unlikely to outweigh ongoing costs to serve the loan.</p>
<p>7. Public and Private Investment</p>	<p>In this model, there is a combination of direct government investment combined with cheaper long-term public or private sector financing e.g., via the Clean Energy Finance Corporation (CEFC), Australian Renewable Energy Agency (ARENA), Housing Australia Future Fund, banks or institutional investors.</p> <p>Case study: In Sydney, St George Community Housing (SGCH) partnered with the CEFC and the New South Wales</p>				<p>Not relevant for public housing</p> <p>Further consideration for community housing, owner occupier and private landlords. A blend of public and private funding and finance mechanisms has merit. The caveats outlined above under subsidies and loans should be</p>

	Government to access lower cost financing to build new efficient community housing. With the savings from the lower-interest financing and in combination with a grant from the NSW Government, SGCH was able to retrofit older community housing with energy efficiency measures and solar PV panels - saving residents up to \$570 annually per property. ¹⁰⁵					considered in designing a blended finance and funding package. Consideration should also be given to implementation via a Special Purpose Funding and Finance Vehicle (discussed at option 9).
8. Environmental Upgrade Finance (on property finance)	An Environmental Upgrade Finance (EUF) is typically a three-party loan (or finance mechanism) between a building owner, local government and a lender to provide low-cost and long-term loans to undertake energy performance and climate resilience improvements. ¹⁰⁶ The loan contributes 100% of the upfront costs. The liability is secured against the property and repaid through an additional property tax or council rate. Repayment is typically over extended timescales (15-25 years) at a low interest rate (or possibly zero-interest rate). ¹⁰⁷ Repayments are often calculated to be less than the savings made from energy efficiencies (e.g., less than 75%). Importantly, the liability remains with the property if there is a change of ownership. ¹⁰⁸ Legislation exists in Victoria, New South Wales and South Australia to support EUFs, however, to date they have mainly been used on non-residential buildings.	✓	✓	○	✗	<p>Pursue for owner-occupier and private rental.</p> <p>EUFs managed through local councils, with appropriate consumer protections in place, could provide significant benefits over other financing and funding mechanism, including:</p> <ul style="list-style-type: none"> ▪ Councils are trusted and experienced delivering programs in their local areas, including providing culturally and linguistically appropriate services. ▪ Longer repayment (10-15 years) reduces the weekly repayment

¹⁰⁵ <http://www.sgch.com.au/reducing-energy-poverty-in-community-housing/>

¹⁰⁶ Green Finance Institute 2020, Financing energy efficient buildings: the path to retrofit at scale.

¹⁰⁷ Kirkpatrick, A. J., & Benneer, L. S. (2014) [Promoting clean energy investment: An empirical analysis of property assessed clean energy](#). *Journal of Environmental Economics and Management*, 68, 357-375.

¹⁰⁸ Green Finance Institute 2020, Financing energy efficient buildings: the path to retrofit at scale; Climate Bonds Initiative, [Energy Efficiency](#)

	<p>Case study: more than 70 local councils across Victoria, New South Wales and South Australia have partnered with Sustainable Australia Fund to provide long-term finance for environmental upgrades to non-residential buildings, with Better Building Finance to provide on-the-ground support services to councils to work through the loan, upgrade process and billing services.</p> <p>Case study: Several US States (California, Florida and Missouri) deliver EUFs via Property Assessed Clean Energy Financing (PACE). The PACE system has been criticised mainly because it is being delivered via private companies without accountability and consumer protections in place. Private companies are engaged to handle logistics, such as providing finance and approving loans, who in turn contract private companies to market the program and organise retrofits and installation. PACE does not require an independent party to assess if proposed energy upgrades are required; whether the upgrades will be offset by savings, by how much and over what period of the loan; and whether the recipient can pay the loan back.</p> <p>Positive</p> <ul style="list-style-type: none"> ▪ Addresses upfront cost. ▪ Addresses access to affordable finance. Long repayment (15-20 years) reduces the weekly repayment amount allowing savings to outweigh costs. ▪ Encourages deeper retrofits and is scalable. ▪ Little impact on public budget. ▪ Helps reduce spilt incentive in private rental. ▪ Stays with property which makes manageable and reduces risk for property owner for financier. 				<p>amount allowing savings to outweigh costs. This would support deeper retrofits.</p> <ul style="list-style-type: none"> ▪ Stays on property so original loan recipients are not saddled with repayments without benefits (flexibility should be built in to allow finance to be finalised at any time). ▪ Cost to recipients could be further reduced because local councils can potentially use a tender process to bulk purchase and depending on financing of the EUF, councils are exempt from GST on goods. ▪ Councils can act like a one-stop-shop either in-house or through a third-party provider. ▪ Council rates are tax deductible for landlords. ▪ EUFs can be combined with subsidies as currently provided to low-income households by some local councils. <p>Additional reform and support for local councils is needed to roll out to residential households and to other states and territories.</p> <ul style="list-style-type: none"> ▪ Introduce legislation to enable EUFs in all states and territories.
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	<ul style="list-style-type: none"> ▪ Cost to recipients could be further reduced because local councils can use a tender process to bulk purchase. ▪ Depending on the financing and delivery of the EUF, Council could be eligible for GST exemption on products used in retrofits. ▪ Council CEO can approve rather than approval at council meetings as is the case for council run zero-interest loans. ▪ With appropriate accountability and consumer protections in place repayments will be less than the savings. <p>Negative.</p> <ul style="list-style-type: none"> ▪ Not suitable for moveable appliances/items that don't remain with the property (although most of the retrofits being considered are permanent features). ▪ Lack of enabling regulation, infrastructure, and finance to implement and scale up at residential level. ▪ If delivered by for-profit or if accountability and consumer protection measures are not put in place, households could end up paying for loans that are too large to be repaid easily and/or cost savings of the retrofits do not offset the loan repayments. 					<ul style="list-style-type: none"> ▪ Consider modifying EUF legislation to not require tri-party agreement with third party financier, which could enable local councils to access lower-cost finance such as bonds via Municipal Council Association or through a revolving fund via a Special Purpose Finance Vehicle. ▪ Put accountability and consumer protections in place to ensure retrofits are appropriate for the household and that savings will outweigh repayments. Enable repayments to be paid out early if desired. ▪ Provide additional up-front financial support to assist local councils to build capacity. ▪ Ensure infrastructure is in place, including finance and billing platforms (e.g. Better Building Finance) and one-stop-shop platforms either inhouse or outsourced (e.g. Brighte and Boom!) to access suppliers and trades.
9. Special purpose funding and	A Special Purpose <u>Funding</u> Vehicle is an entity or vehicle designed to gather and allocate funding for a dedicated cause or initiative. This could involve the aggregation of	✓	✓	✓	✓	Pursue the development of a Special Purpose <u>Funding</u> Vehicle to gather and allocate funding for energy

<p>finance vehicles</p>	<p>funds from various sources to support projects, programs or sectors.</p> <p>A Special Purpose <u>Finance</u> Vehicle is a vehicle or mechanism that is structured to handle financial activities related to a particular purpose or objective. It is often a separate legal entity and financial structure that can be used to fund a specific purpose or objective.</p> <p>These terms can sometimes be used interchangeably. In this case, the Federal Government could establish a Special Purpose <u>Funding</u> Vehicle to support retrofits for low-income housing, and potentially the rest of the existing housing stock.</p> <p>The Special Purpose <u>Funding</u> Vehicle could attract both government and private sector investment from a broad range of entities. This may include investment via the following groups who have specific objectives in mind:</p> <ul style="list-style-type: none"> • Low-cost finance from Green Bonds • Federal government revenue • State and territory government revenue • Energy industry contributions (with protection against recouping costs from consumers) • Insurance industry contributions • Philanthropic contributions <p>The capital within a Special Purpose <u>Funding</u> Vehicle could be used to fund a range of “programs” to provide retrofits across public housing, community housing, private rental, and low-income owner-occupier via initiatives such as</p>			<p>performance and climate-resilience retrofits for low-income housing.</p> <p>The Federal Government could take responsibility for establishing Special Purpose <u>Funding</u> Vehicle to fully fund retrofits in public housing, community housing, and First Nations community-controlled housing retrofits, building on the \$300 million the Federal Government has already committed to upgrading social housing. The Fund could be quickly expanded to provide:</p> <ul style="list-style-type: none"> • Zero-interest loans or EUFs, and subsidies for low-income owner-occupiers. • Zero-interest loans or EUFs, and possible subsidies (see option 3) for private landlords. • Federal funding to assist landlords with upgrades should be conditional on states and territories introducing minimum energy performance and climate-resilience standards. <p>Special Purpose <u>Finance</u> Vehicles could be established to deliver these programs.</p>
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	<p>zero-interest loans, Environmental Upgrade Finance (EUFs), grants and subsidies.</p> <p>Special Purpose <u>Finance</u> Vehicles could be established to deliver these programs.</p> <p>Case Study: South Australia Government have in place a Special Purpose <u>Finance</u> Vehicle in partnership with the CEFC, ARENA and Tesla to deliver solar and batteries to social housing. Noting the advantage of solar and batteries is it is relatively straight forward to identify return on investment.</p> <p>Positives</p> <ul style="list-style-type: none"> ▪ Does not rely solely on government funds. ▪ Potentially larger pool of funds to allow for faster and deeper retrofits. ▪ Can become a revolving pool of funds that can support retrofits across all ownership structures. ▪ Brings in other actors with vested interests, i.e., energy and insurance industry. <p>Negatives</p> <ul style="list-style-type: none"> ▪ Additional administrative costs to manage a Special Purpose <u>Funding</u> Vehicle; governance arrangements would need to be put in place. 					
<p>10. Better targeted energy retailer Energy Efficiency Schemes</p>	<p>Energy Efficiency Schemes in Victoria (VEU), New South Wales, ACT (ESS) and South Australia (REPS/REES) set an energy savings target for energy retailers who then provide financial incentives to improve the energy efficiency of households and businesses with equipment and</p>	×	×	×	×	<p>Not pursue</p> <ul style="list-style-type: none"> • Historically have not benefited low-income households.

	<p>appliances. Historically, Vic and NSW/ACT_schemes have invested in smaller items and have provided little assistance to people on low incomes. SA REPS includes building related measures and a specific sub target for “priority group households”.</p> <p>Positives:</p> <ul style="list-style-type: none"> ▪ No additional government money required. ▪ Can start quickly in SA, Vic, NSW and ACT. ▪ Retailers manage the scheme. <p>Negatives:</p> <ul style="list-style-type: none"> ▪ Not established in every state and territory so national set up time would take a while. ▪ Not suitable for rental as retailer relationship is with energy bill payer. ▪ Historically the scheme has focused on small energy efficiency measures. Vic and NSW/ACT mainly works at appliance level, and subsidy does not cover the full cost. Uncertainty as to suitability for accelerated and deep retrofits. ▪ No incentive to focus on climate resilience measures. ▪ Costs recovered from energy bills which is regressive 				<ul style="list-style-type: none"> • Not suitable for funding deep energy performance retrofits for low-income housing • Not suitable for climate-resilience retrofits • Not suitable for private rentals as tenant pays cost. • Cost recouped from all electricity bills which is regressive. • Only operational in SA, Vic, NSW and ACT
<p>11. Network regulated finance of retrofits</p>	<p>Electricity Distribution Network Service Providers (DNSPs) fund upfront residential energy efficiency initiatives to reduce energy costs and emissions for consumers. This is often a cheaper alternative for DNSPs than building out networks.</p> <p>In the US, most DNSP models place a binding obligation on networks to meet a certain level of energy savings over a specified period, like the Energy Efficiency Schemes in NSW,</p>	×	×	×	<p>Not pursue</p> <ul style="list-style-type: none"> • Not suitable for funding deep retrofits. • Not suitable for funding climate-resilience retrofits. • Not suitable for private rentals as tenant pays cost.

	<p>Victoria and South Australia which require energy retailers to meet energy savings targets. In the US, DNSPs typically establish contracts with third parties delivering energy performance retrofits. An energy performance contract between the property owner and utility, often with a third-party like a bank, can provide a performance guarantee.¹⁰⁹ .</p> <p>In Australia, the Demand Management Incentive Scheme (DMIS) has been created by the Australian Energy Regulator (AER) to encourage DNSPs to support demand management wherever this would lead to net benefits for their customers.</p> <p>Adopted in December 2017, the DIMIS foreshadowed up to \$500 million in demand management expenditure and up to \$1 billion in avoided network expenditure and other benefits for energy customers over five years. Unfortunately, to date the scheme has been cumbersome, unclear, and not very effective.</p> <p>There is the potential to revamp the scheme, particularly with the change to the National Electricity Objective to include an emissions reduction.</p> <p>The DMIS could potentially contribute funds towards home energy retrofits, where doing so would reduce costs to DNSPs and reduce carbon emissions. For example, if the retrofits could reduce peak demand or shift load toward</p>					<p>Other funding and finance models are better for retrofitting low-income housing.</p>
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¹⁰⁹ Bertoldi, P., & Boza-Kiss, B. (2017). Analysis of barriers and drivers for the development of the ESCO markets in Europe. Energy Policy, 107, 345–355. <https://doi.org/10.1016/j.enpol.2017.04.023>; Pätäri, S., & Sinkkonen, K. (2014). Energy service companies and energy performance contracting: Is there a need to renew the business model? Insights from a Delphi study. Journal of Cleaner Production, 66, 264–271

	<p>periods of minimum demand (high rooftop solar output) this could reduce network costs.</p> <p>While this is unlikely to cover the cost of home retrofits fully, it could constitute a significant contribution towards the cost.</p> <p>Positives</p> <ul style="list-style-type: none"> ▪ Uses a major existing regulatory incentive. ▪ Integrates the energy system and incentivises energy demand and energy performance. ▪ Aligns with the climate change obligations of the revised National Electricity Objective (NEO). ▪ No upfront costs for household <p>Negatives</p> <ul style="list-style-type: none"> ▪ Requires engagement with the network businesses and the AER to reform the guideline. ▪ Uncertainty at what scale networks could deliver. Could have same problems as the Energy Efficiency Schemes managed through retailers, which focus on smaller items and are not focused enough on low-income households. ▪ No incentive to focus on climate resilience measures unless they also protect the network and meter at the home. ▪ May take a while to get off the ground and establish. 					
12. New tax incentives	<p>In this model, the federal government modifies existing tax incentives such as providing instant asset write offs or accelerated depreciation rather than depreciation over the life of an asset.</p>	×	×	×	×	<p>Reluctant to pursue</p> <ul style="list-style-type: none"> • Write offs or accelerated depreciation could enable more

	<p>Positives</p> <ul style="list-style-type: none"> • Utilises existing tax system. • Reduces administration burden of subsidy or rebate scheme. • Pays back cost of retrofit to the landlord sooner than existing tax depreciation incentives. <p>Negatives</p> <ul style="list-style-type: none"> ▪ Write offs or accelerated depreciation could enable more landlords to access negative gearing because it substantially increases losses associated with rental property in the short-term.¹¹⁰ ▪ No ability to link conditions on receiving the incentive such as placing a cap on rental increases above CPI or types of upgrades. ▪ Not suitable for social and affordable housing. ▪ Not suitable for owner-occupiers who pay little tax. ▪ Benefit at tax time and not when retrofit is undertaken 					<p>landlords to access negative gearing because they substantially increase losses associated with rental property in the short-term. Negative gearing as contributes to distortions in the housing market by pushing up house prices (as landlords are willing to pay more for homes knowing they can negatively gear against income) and is highly inequitable (with highest income earners benefiting the most). We recommend that tax offsets be limited to income received from the property.</p> <ul style="list-style-type: none"> • ACOSS would prefer a conditional subsidy program, applicable only to specific types of retrofits (size, costs etc); and requiring a cap on rental increases above CPI. • Not suitable for other housing tenures.
13. Modify existing tax rebate for property	Change the existing property repairs, maintenance and capital expenditure tax deduction to require replacement of hot water, heating/cooling, cook tops, and other major	✗	✓	✗	✗	<p>Pursue reform of existing tax deductions to require installation of</p>

¹¹⁰ ACOSS does not support negative gearing as there is research suggesting that it contributes to distortions in housing market by pushing up house prices (landlords are willing to pay more for homes knowing they can negatively gear against income) and general equity issues (with highest income earners benefiting the most)

repairs and maintenance	<p>appliances to be energy efficient and electric (where they were gas).</p> <p>Positives.</p> <ul style="list-style-type: none"> ▪ Using existing tax law. ▪ Could be implemented straight away. ▪ Not reliant on minimum standards in place. <p>Negatives.</p> <ul style="list-style-type: none"> ▪ Would take a while for upgrades at end of the life of an appliance. ▪ Does not create deep retrofits. ▪ Does not address climate-resilience. 					efficient and electric appliances, at end of appliance life.
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