



Australian Housing Outlook

2022-2025 Green Edition



About this report

Produced by BIS Oxford Economics for QBE Lenders' Mortgage Insurance.

The purpose of this report is to improve our understanding of green housing by identifying tangible choices made by households to reduce emissions, and to track the uptake of these choices over time. It also provides an analysis and forecast of the key drivers influencing the residential housing market nationally, as well as across each of Australia's state and territory capital cities and selected regional centres. The analysis presents an outlook for the performance of the residential market, as measured by historical and forecast movement in the median house price and median unit price.

The forecast annual percentage changes in the median house price and median unit price in the price forecast charts in this report are often rounded to the nearest whole number. Any reference to price growth in the text may not be identical to that indicated in the charts due to the impact of this rounding.

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Sustainable architecture 8.4 star all-electric Passive House, VIC.

Photo: @marniehawson Architect: @melbourne.design.studios



As the new General Manager of QBE LMI, I'm delighted to introduce the 21st edition of the Australian Housing Outlook, authored by BIS Oxford Economics and commissioned by QBE Lenders' Mortgage Insurance. Welcome to the Green Edition. As an international insurer and reinsurer, we're driven by our purpose to enable a more resilient future for the economies and communities in which we operate, helping those around us build strength and embrace change to their advantage.

The Green Edition explores how the housing market is changing as we move towards a more sustainable future. Australia has made many gains in the way we approach more efficient and effective green living standards. The report incorporates a comprehensive view of housing, sustainability and the housing outlook as Australian dwelling prices enter a phase of correction.

When it comes to sustainable housing, Australia has the highest uptake of rooftop solar in the world. The building industry tells us how LED lighting and increased insulation are among the most highly installed energy saving initiatives. Lighter coloured roofs, double glazed windows, and efficient solar hot water systems also play a role in energy efficiency. Making a property sustainable and resilient can add value; in fact, studies show energy efficient homes are valued 5%-10% higher than those without sustainable inclusions.

**There's
nothing more
personal than
buying your
own home.**

We want to drive the green housing conversation here in Australia. To be consistent, innovative and supportive as we grow with our partners, enabling their transition to a resilient and sustainable future. It's why we're so excited about Green Lenders' Mortgage Insurance (LMI), our sustainable innovation that lowers the cost of LMI for green approved home loans provided by our exclusive lenders. This helps to empower customers to achieve their dream of home ownership and support a sustainable future. All LMI premiums will be directed into social and environmental impact investments through QBE's Premiums4Good initiative, which is another way we support a sustainable future across the globe.

We want to enable sustainable financial outcomes so people can plan to own their home. We'd like homebuyers to understand the future of that house - not just at the start of the buying process, but 30 years from now. Home is where families grow, people live their lives and fund their retirement. It's the one asset that sits at the core of both family and financial wellbeing. There's nothing more personal than buying your own home. It's crucial that homeowners can look after their present and future. We're pleased Lenders' Mortgage Insurance continues to support Australians as they enter the property market and build financial resilience.

Pat Priest
GENERAL MANAGER
QBE LENDERS' MORTGAGE INSURANCE



Premiums4Good™

**Together, we're
investing for
impact now, to
enable a more
resilient future**

Learn more at
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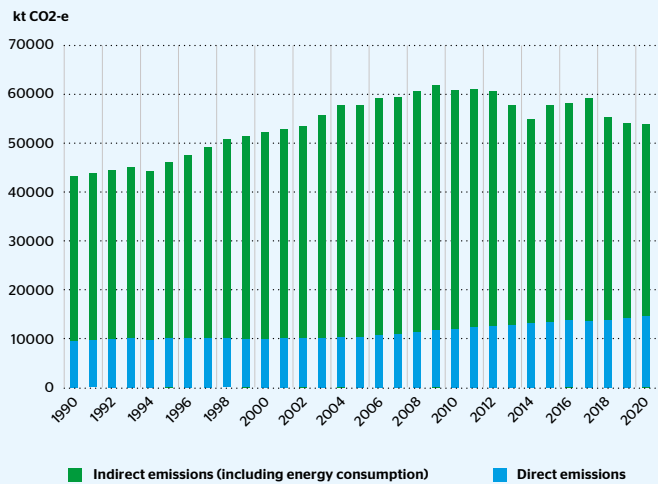
Australian Homes – responding to the climate challenge

Australia's changing climate represents a significant challenge to households, communities, government and industry. We are already experiencing the adverse effects of climate change including average temperature increases, more frequent extreme weather events and rising sea levels. This is expected to continue unless we grasp the opportunity to make more sustainable choices and reduce future emissions.

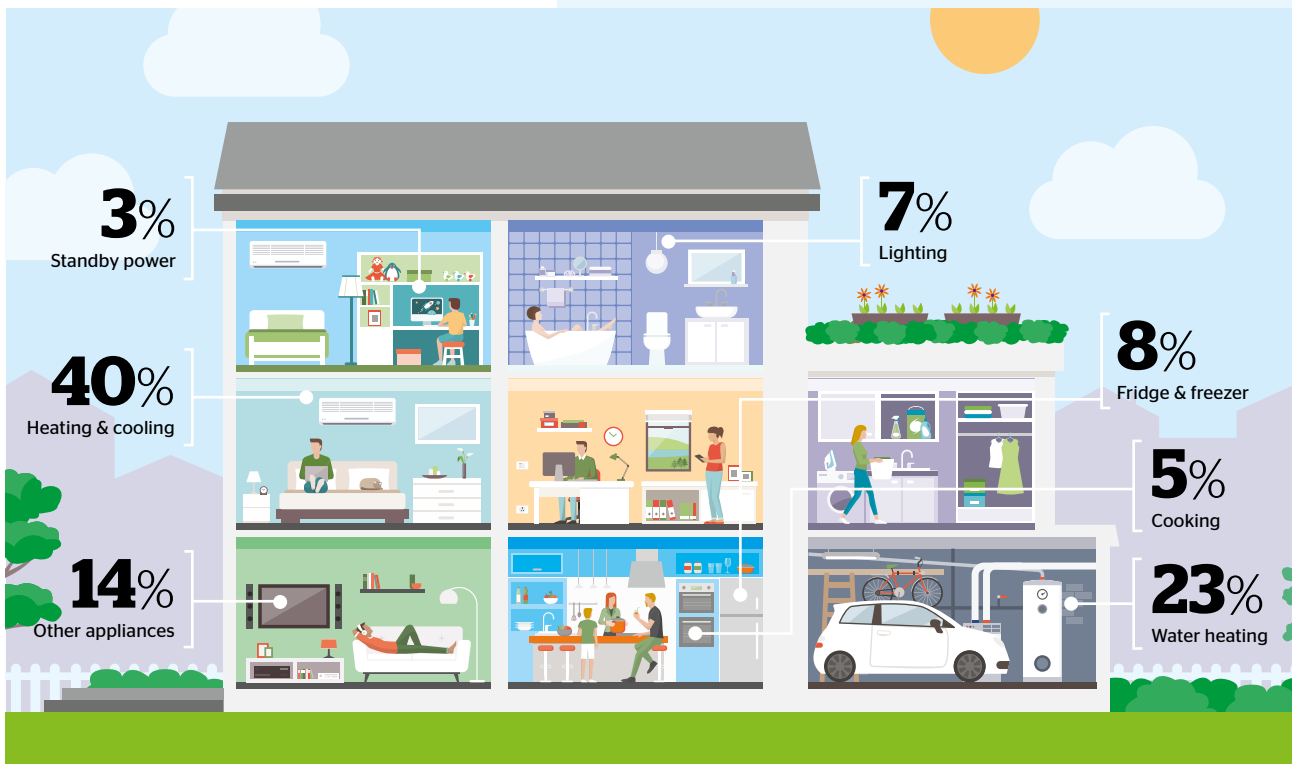
The good news is that Australian greenhouse gas emissions from the residential housing sector have been declining for the past decade. This trend is common across Australia's States and Territories and is occurring despite the continuous growth of the Australian population, demanding a greater number of homes.

Indirect emissions, predominantly energy use, is the dominant source of emissions from the residential sector and represented 73% of all residential emissions in 2021. The biggest use of energy goes to heating and cooling our homes, generating hot water, operating our appliances and keeping the lights on. With that in mind, the most effective way of reducing emissions from Australia's homes is to minimise energy use and shift to renewable energy.

Residential sector (non-transport) greenhouse gas emissions



Source: Department of Climate Change, Energy, the Environment and Water



Source: <https://www.choice.com.au/home-improvement/energy-saving/reducing-your-carbon-footprint/articles/energy-efficient-appliances>

Photo: @marnietawson Architect: @melbourne.designstudios



Households are increasingly making green choices. Australia has the highest uptake of rooftop solar energy in the world, with nearly 3.2 million installations, or around 30% of all homes, as of June 2022¹. Increasingly ambitious building regulation is leading to changes in construction of new homes including the greater use of insulation, double glazed windows and lighter coloured roofs to reduce future household emissions.

Beyond construction, households are adopting more energy efficient appliances, heating and lighting solutions. What's more, banks are offering green mortgages to further encourage sustainable housing and energy retailers offer renewable and carbon offset products for environmentally conscious consumers.

Despite our progress, Australia remains one of the highest emitters of greenhouse gases on a per capita basis². The green housing transition in Australia will be challenging. We need to consider not just how to improve the construction of new dwellings, but also how to upgrade Australia's existing homes.

The purpose of this report is to improve our understanding of green housing by identifying tangible choices made by households to reduce emissions, and to track the uptake of these choices over time.

The following chapters consider green construction choices, the adoption of more sustainable appliances as well as energy and financing choices by households. An overview of the outlook for the Australian domestic dwelling market by state and capital cities is included in the concluding chapter.



Key insights

- Making a property more sustainable and resilient adds value to it. Across the spectrum of studies of green properties, the consensus is that energy efficient homes are valued 5% to 10% more than others even after accounting for property specific items³.
- Australia has the highest uptake of rooftop solar in the world, with nearly 3.2 million installations, or around 30% of all homes as of June 2022⁴.
- Installing a 5kW rooftop solar system saves the average Australian household \$909 per year on electricity. The most significant savings come from reduced usage costs and Feed in Tariff (FiT) credits, giving households savings on their energy bill from contributing energy back to the grid.
- Minimum insulation requirements and recommended levels vary across different climate zones. Effectively insulating the ceiling, walls and floors of a typical home saves 45-55% on heating and cooling costs with an average payback period of 5-6 years⁵.
- The most commonly installed energy saving initiatives reported by builders, architects and designers are LED lighting and increased insulation. LEDs use 75% less energy than halogen light bulbs and last 5 to 10 times longer. The up-front cost of LEDs generally has a payback time of less than 1 year⁶.
- Higher production levels and technology improvements have lowered the costs of energy efficient household appliances. An example is front loader washing machines. More efficient front loader washing machines have increased their market penetration from 9% in 2000 to 47% in 2020, and now represent 67% of the washing machines offered on the market⁷.
- New technology such as half-wash and economy wash options have drastically reduced the amount of energy and water used by modern, more energy efficient dishwashers. A dishwasher manufactured in the early 1990s uses on average more than twice as much water - and 80% more energy - to wash the same-sized load as a current day model⁸.
- While rising in popularity, adoption of lighter coloured roofs, double glazed windows, and solar or heat pump hot water systems in Australia remains relatively low in overall terms. Although more expensive to buy, solar and heat pump hot water systems use 60-70% less energy than a conventional electric system and reduce associated greenhouse gas emissions by around 65-70%⁹.
- The recent expansion of green home loan offerings give households the opportunity to access discounted interest rates if they build, buy or renovate a home to meet certain energy ratings, with criteria including efficient hot water systems, electrified fixtures and appliances and rooftop solar systems.
- The transition to green housing was accelerated at the recent meeting of Building Ministers with the decision to mandate a minimum 7-star Nationwide House Energy Rating Scheme (NatHERS) rating for all new homes.
- The introduction of an Australia-wide mandatory energy rating system for residential property has the potential to further incentivise the adoption of green housing in Australia similar to what has been observed in Europe.

Housing Outlook

- The sharp increase in the national median dwelling price since the onset of the pandemic has come to an end. Quarterly growth turned negative in June 2022 and the Australian housing market has now entered a phase of correction.
- Rapidly rising interest rates to limit inflation are seen as the primary driver of falling prices.
- The market slowdown will be widespread but vary across states and territories. Sydney is expected to experience the largest decline due to the combination of strong recent rises in interest rates, high household indebtedness and elevated construction cost growth. At the other end of the spectrum, a buoyant resource sector and a recovery in population flows is expected to support the housing market in Perth.
- Unit prices are forecast to decline less than houses, given less exposure to affordability issues with the price growth in detached houses over the last two years outstripping units. Units also generally present a more affordable living option than houses. The rise of working from home boosted demand for larger dwellings, however this is beginning to slow as workers move to hybrid working arrangements.
- Acute pressure in the rental market is set to be sustained by the return of overseas migration, spurring double digit growth in asking rents across many CBD markets. Resulting yield growth is anticipated to support investor demand.
- Much of the price decline is expected to occur over the remainder of 2022, accelerated by the rapid series of rate rises from May 2022. Prices are expected to recover beyond mid-2023 as interest rate rises are expected to stabilise.



Sustainable residential building is gaining momentum

The transition to green housing was accelerated at the recent meeting of Building Ministers with the decision to mandate a minimum 7 star Nationwide House Energy Rating Scheme (NatHERS) rating for all new homes. This decision will be included in the 2022 National Construction Code and enforced from October 2023.

This is the latest change in a long running shift towards more sustainable housing. According to the NatHERS energy star ratings, pre-1990 houses had an average rating of 1.57 stars and post-1990 houses had 3.14 stars.¹⁰ In 2005, housing minimum efficiency regulations required new houses to be designed to achieve a minimum of 5 stars. This was increased to 6 stars in 2011, where it remained until the latest decision.

Adhering to a 7 star NatHERS rating will require greater uptake of energy saving features such as rooftop solar, higher quality insulation, double glazed windows and more reflective roofs. While these choices come with an upfront cost, Climate Council modelling shows a 7 star all-electric home¹¹ achieves a 25% reduction in emissions compared to the current minimum standard of a 6 star all-electric home. What's more, the increase in these minimum standards are expected to save an average household \$450 per year on heating and cooling costs¹².

Sustainable housing is also estimated to add value to a property. Consensus across a number of studies suggests that more energy efficient homes are worth 5% to 10%¹³ more than comparable homes, accounting for property size, location and demographics.

While the shift to a 7 star NatHERS rating is significant, the effect on overall housing emissions will be slow to materialise given new homes replace less than 2% of the building stock each year¹⁴. Of the stock built before 2015, 46% is expected to still be in use in 2050, highlighting the importance of retrofitting¹⁵.

Financial markets' ability to value green housing features would benefit from NatHERS certification being applied to all homes (existing as well as new builds). Green housing features increase the value of a property¹⁶ and decreases the risk of mortgage default¹⁷ however limited data on established housing stock makes it more difficult for financial institutions to accurately and reliably

assess the impact of these measures. Europe provides an insight into the direction Australia could go moving forward. Valuers working alongside lenders have accelerated Europe's move towards higher volumes of greener mortgages, retrofits, and lower default risk. This, in turn, has sent clear signals to the finance and construction sectors to accelerate the expansion of further sustainable housing development.

The remainder of this chapter considers the adoption of each of the key green housing construction features in greater detail.

Australia leads the world in rooftop solar

Rooftop solar has enabled households to support the production of renewable energy, safeguard their homes from energy price fluctuations and support development in sustainable housing. Australia has the highest uptake of rooftop solar in the world, with nearly 3.2 million installations, or around 30%¹⁸ of all homes as of June 2022¹⁹. South Australia has the highest proportion of households with solar panels of any state or territory at 43%, followed by Queensland at 40% and WA at 38%.

Federal and state policy generously supported the initial growth in rooftop solar in 2009 and 2010. Since then, supporting policy has been wound back but households have sustained the momentum reaching 17,000 GWh in 2021²⁰.

Installing rooftop solar has helped push small scale solar generation in 2020/21 to 25% of all renewable energy generation, also representing 7% of total electricity produced nationally²¹.

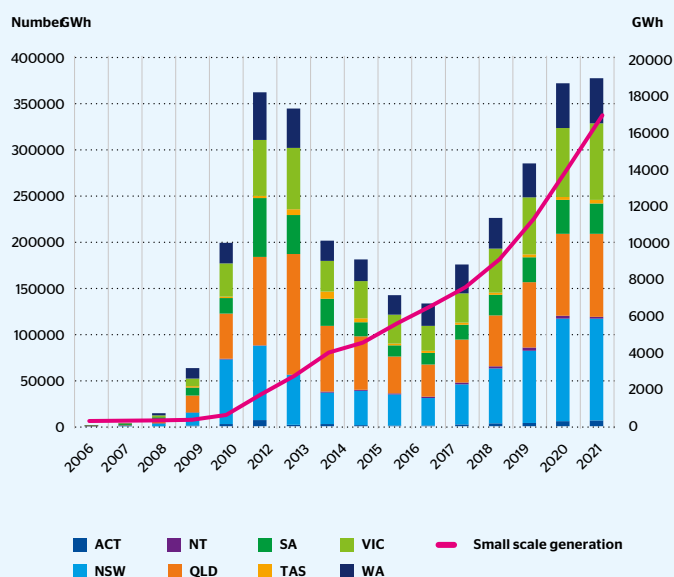
Installing a 5kW rooftop solar system saves the average Australian household \$909 per year on electricity. The most significant savings come from reduced usage costs and Feed in Tariff (FIT) credits, giving households savings on their energy bill from contributing energy back to the grid.

Research suggests that rooftop solar systems add value to both the property price and the rental value of a property. Rooftop solar systems larger than 3.5kW are associated with a housing price premium of around 4%, when controlling for key locational, economic, and financial variables²². What's more, renters with rooftop solar panels pay approximately A\$19 more in weekly housing rents than non-solar renters²³.

Installing a battery alongside rooftop solar maximises savings by increasing households' use of the electricity they have generated. These batteries store the 'excess' electricity generated from rooftop solar panel and reduces reliance on the grid during peak times of electricity use when less solar energy is being generated. There has been a total of 51,000 battery storage systems installed concurrently with a rooftop solar system since 2014. The number of installations increased 38% in 2021 to 13,000.

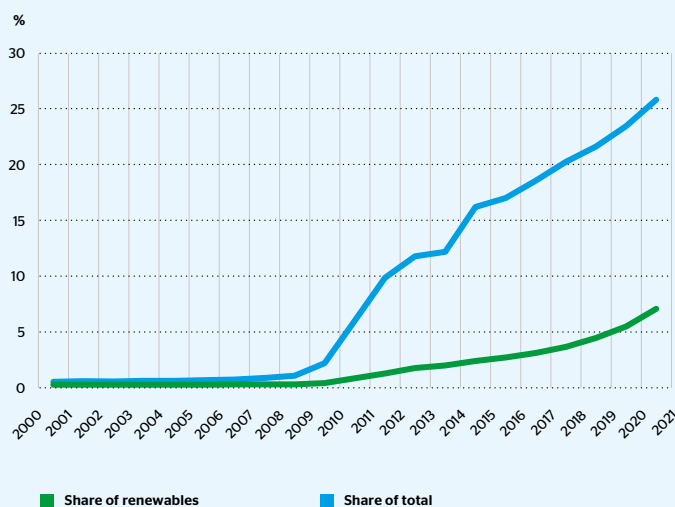
Australia has the highest uptake of rooftop solar in the world

Number of rooftop solar installations by state and total small scale solar electricity generation



Source: Department of Climate Change, Energy, the Environment and Water

Small scale solar share of renewable and total electricity generation



Source: Department of Industry, Science and Resources. Note: financial years.

Lighter coloured roofs

Light coloured roofs reflect up to 70% of summer heat gain

Solar panels

Save the average Australian household \$909 per year on electricity bills

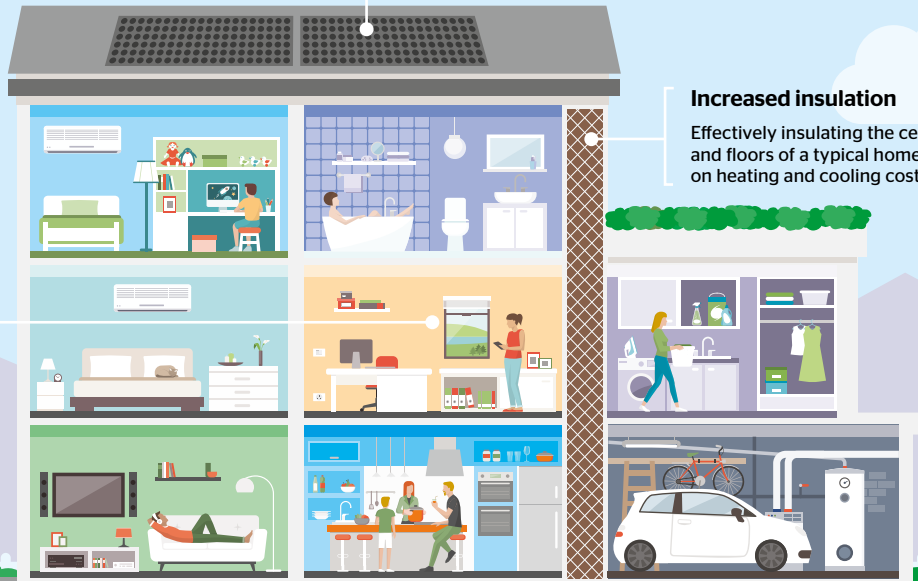


Increased insulation

Effectively insulating the ceiling, walls and floors of a typical home saves 45-55% on heating and cooling costs

More energy efficient windows

20-25% of a home's summer heat gains and 10-20% of winter heat losses come from windows



Lighter coloured roofs reflect the heat on sunny days

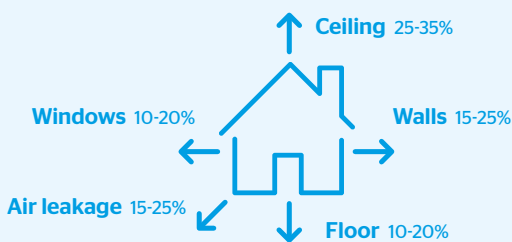
Lighter coloured roofs reflect 50% more heat from the sun than dark roofs and reduces indoor temperatures by up to 4°C. This could save households around 25% on their cooling costs compared to dark coloured roofs. Both new and existing buildings stand to save on energy, however existing buildings with low insulation have the most to gain.

Research into new technology focused on 'cool roofs' is more holistic than just lighter colours. Cool roof technology includes energy efficient materials and coating to further increase reflection. Installing a lighter coloured roof with 'cool roof' technology will reflect around 88% of summer heat gain. What's more, large scale implementation of 'cool roofs' has the potential to reduce the air temperature of entire suburbs significantly improving liveability during hot summer days²⁴.

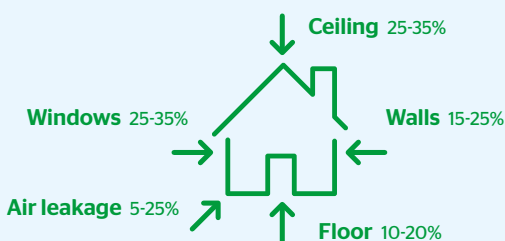
Whilst 'cool roof' materials and coating costs more than a traditional roof, lighter colour roofs do not cost extra to install in a new home. Despite this, light coloured roof implementation is among the lowest reported installation initiatives by builders, architects and designers. Only a quarter of those surveyed by BIS Oxford Economics indicated their projects regularly included the installation of a light-coloured roof over the past few years.



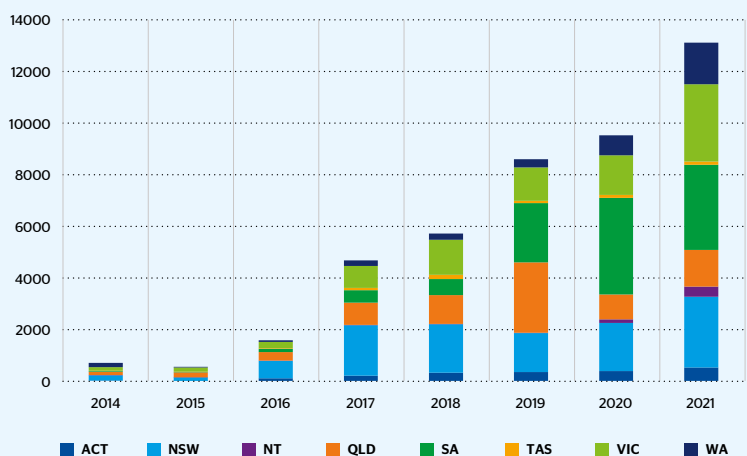
Winter heat losses



Summer heat gains



Number of rooftop solar systems with simultaneous battery installations by state



The future of green energy in households is battery storage. Installations have grown 38% in 2021.

Source: Department of Climate Change, Energy, the Environment and Water



Improved insulation and windows

Heating and cooling accounts for around 40% of energy used in Australian homes. High quality insulation and windows act as a barrier to heat flow.

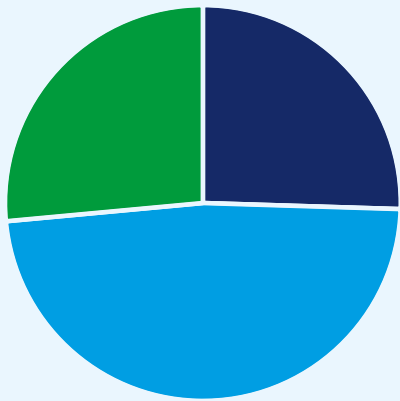
NatHERS rating standards provide minimum insulation requirements and recommended levels across different climate zones. Historically, Australian homes have had little to no added insulation. However, the impact of increased minimum energy rating standards can be seen in recent trends. NatHERS rated dwellings since 2016 typically have additional insulation in the ceiling, walls and floors equivalent to an R-value²⁵ of between 5 and 7.7. This means less heat loss in winter, less heat gain in summer, increased energy savings and reduced greenhouse gas emissions.

Similarly, a key determinant of a home's overall energy efficiency, are windows. Windows account for 20-25%²⁶ of a home's summer heat gains and 10-20% of winter heat losses.

The energy efficiency of windows is affected by orientation, external and internal covering, and glazing. Since 2016, the average heat resistance of windows in NatHERS rated homes has increased by 4.4%. This corresponds to an equivalent percentage saving in energy requirements for heating and cooling.

Efforts until now have focused mostly on the energy efficiency of new homes. Around 95% of the pre-2005 housing stock could benefit from the addition of external wall insulation²⁷. Retrofitting insulation ranges widely in difficulty and cost but is essential for addressing aging housing stock, well below current energy efficiency standards. Windows offer a simpler retrofitting opportunity. Whilst retrofitting double glazing is expensive, the average estimated payback period of window film retrofits is 1.9 years and can be undertaken as a DIY project. Window films typically provide less benefit than double glazing, however they offer a comparatively more affordable solution that is suitable for retrofitting.

Light coloured roof - builders, architects and designers responses

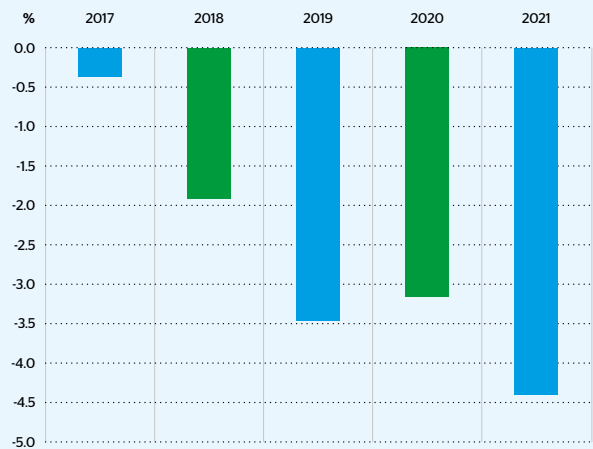


A quarter of surveyed builder, architects & designers said that a high proportion of projects they had worked on included the installation of a lighter-coloured roof.

26% Low (0-3) **49%** Moderate (4-7) **27%** High (8-10)

Source: BIS Oxford Economics

Cumulative change in NatHERS rated new dwellings windows U-value since 2016



This corresponds to a 4.4% energy saving in heating and cooling requirements

Source: Commonwealth Scientific and Industrial Research Organisation (CSIRO)

Sustainability and energy efficiency driving household choices

Beyond construction, households are adopting more energy efficient appliances, heating and lighting solutions. What's more, banks are offering green mortgages to further encourage sustainable housing and energy retailers are offering renewable and carbon offset products for environmentally conscious consumers. This chapter explores the uptake of these opportunities to reduce housing related emissions.

Energy efficient hot water systems

In Australia, water heating accounts for the second largest segment of household energy use after spatial heating and cooling - approximately 25%. The growth of more energy efficient hot water systems, solar or heat pumps, has been significant over the past 20 years. Although a slower take-up than the installation of rooftop solar panels for electricity, the total amount of Australian homes with a solar or heat pump hot water system has increased from 5% in 2000 to 17% in 2022²⁹.

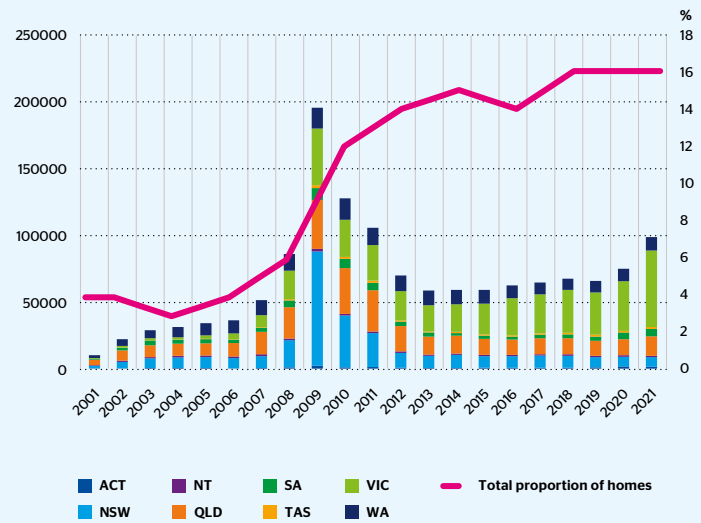
BIS Oxford Economics survey data from the past year indicates further growth in this area, with energy efficient systems representing 33% of reported purchases since January 2021, up from 27% in 2020. One in four responses indicate that most, if not all projects they had worked on, included the installation of solar or heat pump hot water systems over the past few years.

Although more expensive to buy, solar or heat pump hot water systems use 60-70% less energy than a conventional electric system³⁰. Nationally, the number of solar and heat pump hot water system installations has grown at a cumulative average of 6.3% p.a. since 2016.

Recent trends in installations vary across states. Victoria and South Australia are growing rapidly, based on strong state incentives such as the solar and heat pump hot water system rebate in Victoria and the Retailer Energy Productivity Scheme in South Australia. Overall, the number of installations in 2021 increased by 32%, largely driven by increased uptake in Victoria and Queensland.

In BIS Oxford Economics' recent household appliances survey, reduced operating costs feature as the primary underlying motivation for adopting energy efficient systems, with the environment taking fourth place.

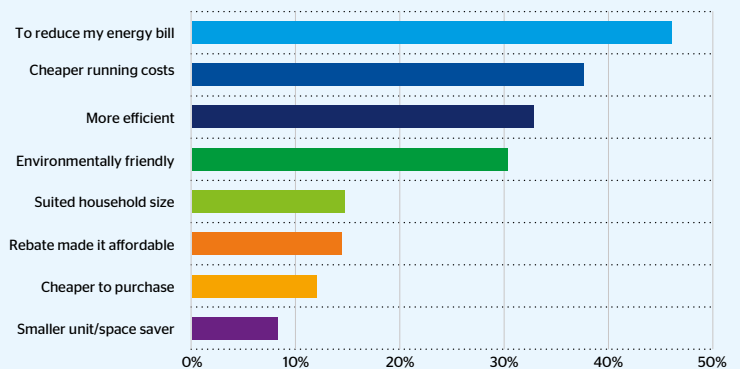
Number of installations and total proportion of homes with solar or heat pump hot water systems



These efficient systems use at least 60-70% less energy and reduce associated greenhouse gas emissions by around 65-70%

Source: Department of Climate Change, Energy, the Environment and Water, BIS Oxford Economics

Reason for converting to a new hot water system



The majority of users converting to solar hot water are trying to save money on their energy bill

Source: BIS Oxford Economics

Energy efficient appliances

Home appliances and equipment use up to a quarter of household energy. Appliances that use the largest amounts of energy and water include refrigerators and freezers, clothes dryers, TVs and home entertainment equipment, washing machines, and dishwashers.

The increased availability of more energy and water efficient appliances and fixtures has been supported both by technological changes, government mandated minimum energy efficiency standards as well as changes in household preferences.

The average refrigerator or freezer on the market today is far more energy efficient and cheaper to run than those manufactured before 1999. By 2009 refrigerators were on average using approximately 40% less energy than equivalent refrigerators built in the first half of the 1990s and the average E3³¹ energy rating of refrigerators on the market in 2022 is 3.0 stars.

Although there has been relatively less movement in the clothes dryer market,³² transitions towards this newer technology will likely continue to increase the average energy rating of the entire market, which is currently at 3.0 stars.

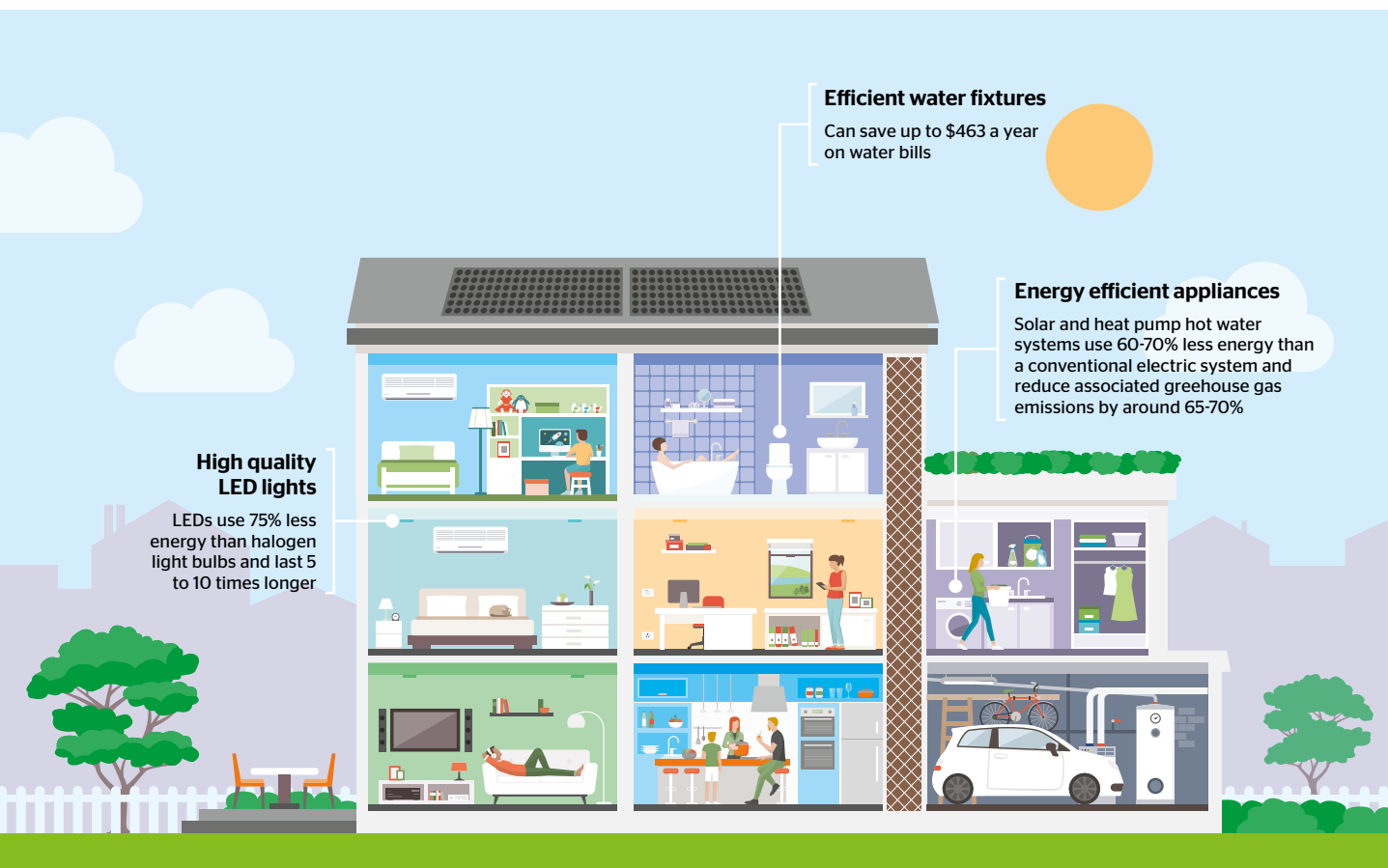
Energy efficient dryers typically cost more to purchase, but on average costs around 50% less per load compared to traditional models. For example, a 7kg,

4-star dryer used daily consumes around 684kWh of electricity a year, whereas a 7kg 2-star dryer used daily uses around 946kWh. This amounts to a saving of approximately \$650 across the typical 10-year lifetime of a dryer³³.

A similar pattern is true for washing machines. Modern energy efficient washing machines are more expensive to purchase but use significantly less energy. The market penetration of energy efficient front load washing machines has increased from 9% in 2000 to 47% in 2020. On average an extra star cuts 27%³⁴ off the running costs. Another energy saving measure is running cold wash over hot wash loads, with a warm or hot wash costing 80%³⁵ more than a cold wash. In 2020, households ran on average 72% of washing machine loads using cold water.³⁶

Technology including half-wash and economy wash options has drastically reduced the amount of energy and water used by modern, more efficient dishwashers. A dishwasher manufactured in the early 1990s uses on average more than twice as much water and 80% more energy to wash the same-sized load as a current day model³⁷. Contributing further to energy efficiency, the proportion of households using 'eco wash' as their regular dishwashing cycle has increased 8 percentage points from 2020 to 2022 to 34%³⁸.

More efficient front loader washing machines have increased market penetration to 47% in 2020.



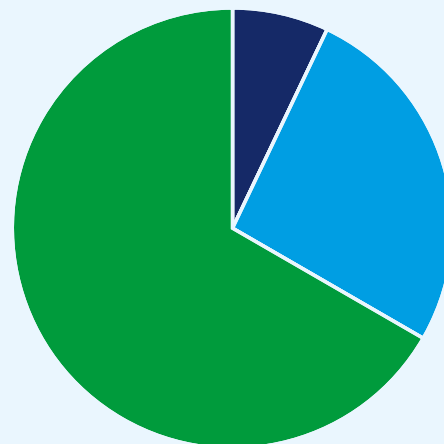
Mandated energy efficient lighting

In Australia, lighting accounts for 5-10% of the average household electricity budget. The transition towards more energy efficient lighting in households has been driven mostly by federal government mandates, state-based energy efficiency obligations schemes and LED transition rebates offered to households. It is estimated that the phase out of incandescent light bulbs, which commenced in 2009 in Australia, is saving around 2.4 terawatt-hours (TWh) of electricity each year (equivalent to the total annual electricity consumption of 400,000 homes). The average household is estimated to be saving \$70 per annum, with cumulative national savings of an estimated \$5.5 billion.³⁹

The phase out of less energy efficient lighting products has continued with mains voltage halogen light bulbs in the process of being phased out where an equivalent LED light bulb is available. LEDs use 75% less energy than halogen light bulbs and last 5 to 10 times longer⁴⁰. The up-front cost of LEDs generally has a payback time of less than 1 year. By replacing 10 halogen light bulbs with LEDs, an average household can expect to save around \$650 over 10 years on their electricity bill. Indicative of this transition, the most commonly installed initiative reported by surveyed builders, architects and designers, was high quality LED lights, with two thirds giving a response indicating that a high proportion of projects they had worked on included the installation of high-quality LED lights over the past few years.⁴¹



High quality LED implementation - builders, architects and designers responses



Two thirds of surveyed builders, architects & designers said that a high proportion of projects they had worked on included the installation of high-quality LED lights

7%
Low (0-3)

26%
Moderate (4-7)

67%
High (8-10)

Source: BIS Oxford Economics



More sustainable energy choices

The push from households to make their homes more energy efficient through greener construction and household practices is only part of the story. These efforts are being complemented by homeowners increasingly sourcing cleaner energy.

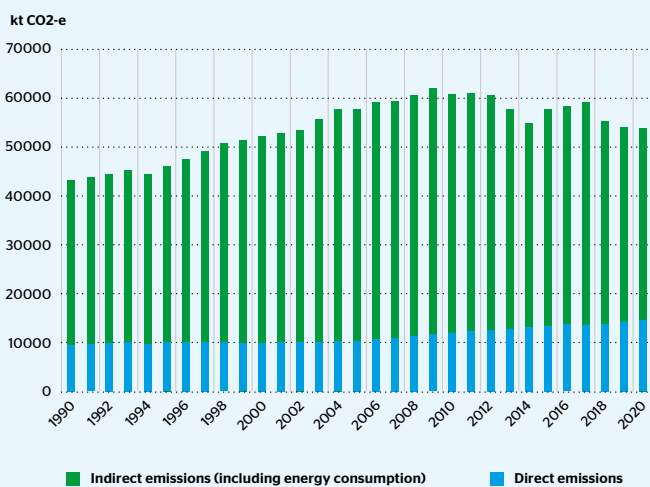
The residential sector directly consumed 11% of energy in Australia as of June 2020, growing well above the long-term trend of efficiency-driven, declining-per-household energy consumption. This result was influenced by pandemic-related stay-at-home restrictions.

Household energy is the key to emissions reductions in the housing sector. Indirect emissions, mostly from using electricity, represent around 73% of the residential sector's non-transport greenhouse gas emissions. Increased choices for households have seen this proportion decrease from over 80% during the last decade.

Renewable electricity has been available to Australian households since 1997 through the government-backed GreenPower program, which reached 850,000 households at its peak. Green energy choices in residential dwellings have since expanded. Households can now access renewable energy or carbon offset schemes from retailers (some at no additional cost), switch to retailers that use only renewable energy sources, or produce their own renewable energy through solar panels.

Policies, programs and increased market offerings have supported households' contributions to the reduction of greenhouse gas emissions in a way that is increasingly transparent and cost effective. The boom in rooftop solar systems and, more recently, associated battery storage systems illustrates the desire from households to move even further in this direction. Consumers seek more efficient, transparent and cost-effective solutions that are close to home.

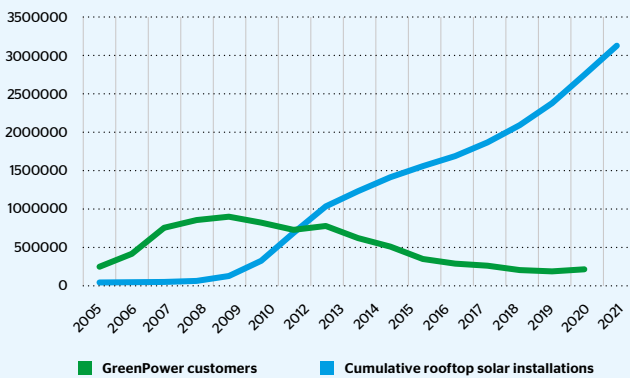
Residential sector (non-transport) greenhouse gas emissions



Source: Department of Climate Change, Energy, the Environment and Water



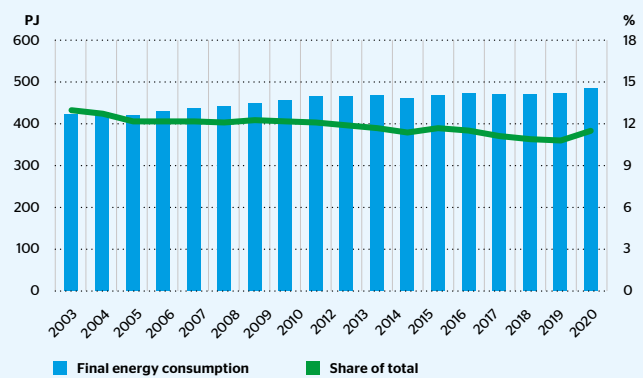
Number of GreenPower customers and cumulative rooftop solar installations



Whilst GreenPower customers have declined significantly since 2009, it has been far outweighed by the boom in rooftop solar installations

Source: GreenPower, Department of Industry, Science and Resources

Residential sector final energy consumption and share of total



Increased time spent at home since the start of the pandemic has stifled long-term declines in energy consumption per household

Source: Department of Industry, Science and Resources. Note: financial years.



Renewable energy share of total energy generation



Renewable energy generation has boomed over the last decade, pushing to meet federal and state targets

Source: Department of Industry, Science and Resources. Note: financial years.



Sustainable housing finance is expanding

- ‘Green finance’ offerings provide incentives to households to renovate or build a more climate resilient and sustainable home. The two major forms of green finance are green upgrader loans and green home loans. The development of these two pillars of green finance is essential for reaching both new and existing stock.
- Several major lenders offer unsecured personal loans at discounted rates to eligible homeowners to retrofit green appliances, rooftop solar systems, energy efficient hot water systems and other green upgrades to their existing home. With 46% of the stock built before 2015 expected to still be in use in 2050, discounted upgrader personal loans gives households, previously uncertain about the up-front cost, further economic reason to upgrade their existing home.
- The green home loan market in Australia is still in its relative infancy. Current offerings give households the opportunity to access discounted interest rates if they build, buy or renovate a home to meet certain energy ratings with features like those outlined in section 3 and 4.
- On average a building that meets the criteria for green home loans currently on offer will use 66% less electricity and emit 62% fewer greenhouse gas emissions than the average Australian home. New construction applying these requirements also recycles 96% of waste, compared with 58% for the average new construction project.⁴²
- Beyond discounted rate offerings to consumers, using measurements of green construction practices can inform financial institutions.
- Studies conducted in the USA and the Netherlands indicate that a higher building energy rating is associated with significantly lower probability of mortgage default. This suggests that energy efficient ratings complement borrowers’ credit information and that lenders using this information can make superior lending decisions than traditional credit information.⁴³

Studies from around the world find that more energy efficient buildings are associated with a lower probability of mortgage default.





Australian Housing Outlook 2022-2025

Following a sharp increase in the national median total dwellings price since the onset of the pandemic, Australian dwelling prices are now in decline as quarterly price growth turned negative in June 2022. The housing market slowdown will be widespread but with significant variation across geographies. Sydney is the most indebted and least affordable capital city, making it the most susceptible to rising borrowing costs and is therefore expected to experience the most substantial decline. Perth on the other hand is finding support from a buoyant resources sector and a strong recovery in population flows.

Tightening credit availability is set to drag on the residential market over the coming year. In October 2021, the Australian Prudential Regulatory Authority

(APRA) increased the loan serviceability buffer by 50 basis points to 3%. The RBA lifted the cash rate target by 25 basis points in May 2022 to 0.35% – the first increase in over a decade – and has followed up with more rate increases in close succession, demonstrating their commitment to return inflation to the 2-3% range over time. The RBA have flagged that a further increase in inflation is expected over the months ahead. Fixed mortgage rates have continued to pick up due to rising external borrowing costs and expectations for tighter monetary policy. Borrowing capacity has subsequently fallen, dragging on buyers' ability to bid up property prices.

The steepest falls in dwelling prices are expected to occur in the next six months, with late 2023 set to mark



the bottom of the cycle. Prices are expected to recover from there with the stabilisation of borrowing costs.

Unit prices are not immune to tighter credit conditions but, having recorded more modest growth over the last two years, are forecast to decline less than houses. As a result of this recent price disparity, unit prices are less exposed to affordability issues than houses. The unit sector will be further supported as workers transition to hybrid working arrangements, with the rise of working from home having boosted demand for larger dwellings. Investors will continue to be active in the market, attracted by yield growth caused by acute pressure in the rental market, which is set to be sustained by the return of overseas migration.

The housing market slowdown will be widespread but with significant variation across geographies.

Snapshot

Economic indicators 2025 forecast

Cash rate

2.6%

Oct 2022
2.6%

Employment growth

2.2%

12m to Aug 2022
4.4%

Unemployment rate

4.0%

Aug 2022
3.5%

Population and migration

Population

March 2022

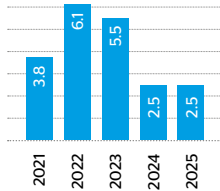
25,890,773

from Mar 2021
0.9%

Consumer Price Index (CPI) growth

2.5%

2022
6.1%



Gross Domestic Product (GDP) growth

3.7%

12m to Jun 2022
3.9%

Overseas migration

March 2022

109,608

Mar 2021
-95,300

Construction and occupancy

House commencements

'000s pa

115.1

10 years to 2022

'000s pa

121.2

5 years to 2022

Unit commencements

'000s pa

86.8

10 years to 2022

'000s pa

82.8

5 years to 2022

Housing affordability*

At June 2022

24.5%

Unit dwellings as a proportion of total dwelling commencements

42.6%

10 years to 2022

40.4%

5 years to 2022

Vacancy rates at June 2022

Sydney

1.6%

2021
3.6%

Brisbane

0.7%

2021
1.7%

Change in home loan activity Year to June 2022

First home buyer

-21.7%

Non first home buyer

5.8%

Total dwelling commencements

'000s pa

203.5

10 years to 2022

'000s pa

205.1

5 years to 2022

Melbourne

4.6%

2021
6.1%

Perth

1.1%

2021
0.9%

Investors**

61.4%

* Housing affordability is shown as mortgage repayments at the prevailing discounted variable rate (based on 75% of the median house price) as a percentage of household disposable income
** based on value of investor loans

Sources: Australian Bureau of Statistics (ABS), Reserve Bank of Australia (RBA), Price Finder, Real Estate Institute of Australia and BIS Oxford Economics



New South Wales outlook

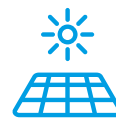
Affordability pressures and interest rate rises reverse price growth, while rents continue to rise.

Sydney House Market

The strong recent Sydney house price boom has run out of steam and is now working through a downward swing. Monthly data showed prices began their descent in April 2022, ahead of the cash rate increase, and worsened upon its lift in May. Having risen more than 40% since the onset of the pandemic - including a 6% price gain in 2021/22 - the median house price in Sydney was \$1,531,000 at June 2022.

Affordability constraints will further mount. A high level of household indebtedness means the Sydney market is most at risk to rising interest rates and tighter lending

conditions. Sydney median house prices are expected to record the greatest peak-to-trough declines relative to other capital cities, declining 18% from its peak, slightly higher than prior property cycles. It is not until late-2023 that soft growth is expected to return, supported by several factors including stamp duty reform in New South Wales which will allow first home buyers to opt-out of stamp duty in favour of land tax, essentially lowering the barrier to entry. The median house price in Sydney is therefore expected to reach \$1,405,000 in the June 2025 quarter and this figure represents an overall decline of some 8% from the June 2022 level.



Rooftop solar installations have been growing at an average of 23% per year for the last five years in NSW - the fastest of any state.



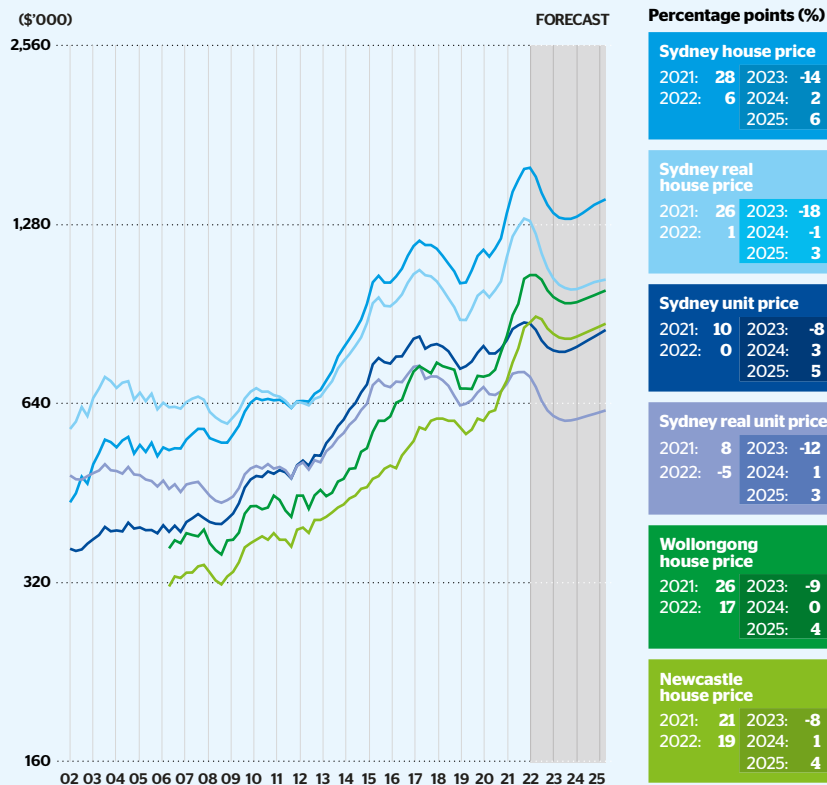


Sydney Unit Market

Houses have substantially outperformed units over the past two years with the shift in preferences toward space resulting in a median unit price rise of only 10% since the onset of the pandemic. However, the relative price between houses and units is likely to attract homebuyers back to apartments in the upcoming three years after realising they may face affordability challenges in buying a house. Nonetheless, price losses have also materialised for units with the median price falling from \$875,000 in December 2021 to \$851,000 at June 2022.

With borders now open, Sydney's rental market is recovering swiftly from the hit to demand through the pandemic. The Inner Sydney vacancy rate has fallen from 14.8% to 3.3% as at June 2022. Demand for houses has proven more resilient, benefitting from the race for space and demand for the middle and outer ring rental markets being somewhat insulated from lower net overseas migration. Unit rents are now nearing the 2018 high after collapsing 14%. Growth is anticipated to swing back to units from June 2022, resulting in unit rents increasing a forecasted 15% in 2022/23 and houses by 13%. Stronger rental growth is expected for units than houses over two years to 2024/25 and investor demand will be supported by such strong growth in rents. Sydney's median unit price is expected to soften in the short-term before rebounding to \$850,000 as at June 2025.

New South Wales: dwelling prices



Source: BIS Oxford Economics, ABS and Price Finder

Regional New South Wales Centres

Interstate migration from Sydney to regional New South Wales has shifted higher with the pandemic. A shift in preferences towards space, the popularity of working from home and affordability advantages are set to see the region's population growth remain elevated, boosting underlying demand for dwellings. This shift is expected to only partially unwind, resulting in a more even geographical distribution of population growth out to 2024/25, benefitting housing demand in locations such as Newcastle and Wollongong.

Victoria outlook

The reopening of international borders is restoring rental demand, particularly for units.

Melbourne House Market

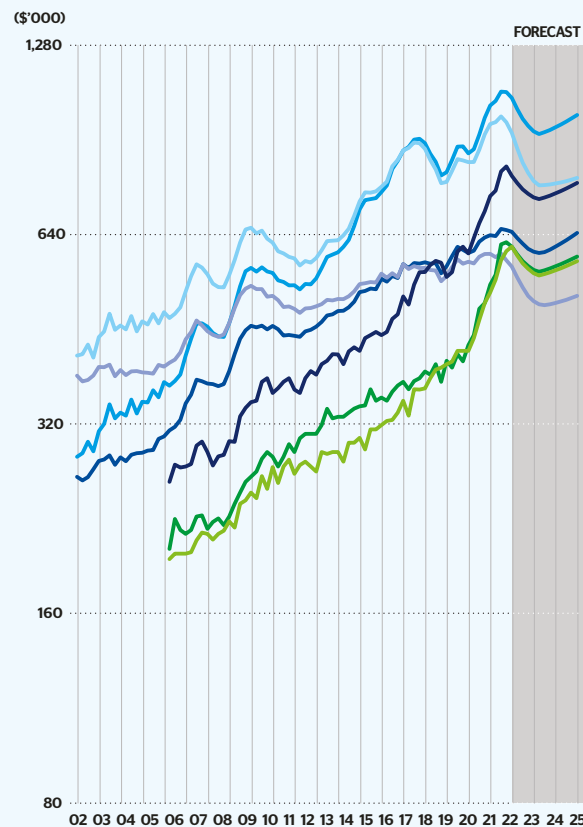
Melbourne house prices climbed 25% between June 2020 and December 2021 despite prolonged lockdowns and the loss of overseas and interstate migration. A strong preference shift toward detached dwellings, government stimulus and low borrowing costs established a solid position from which the house price boom occurred. These positive factors have now largely receded, and as such, momentum has waned. In the June quarter 2022, house prices fell by 2.2% with the median price at \$1,060,000.

Weaker underlying housing demand has pulled the dwelling stock into an oversupply in 2021/22, easing pressure on the residential sector. As the oversupply grows, strong recent interest rate rises will continue to drag on prices. The combination of rising interest rates and high household indebtedness, alongside elevated construction cost growth and an increasing oversupply of dwellings represents drags on new housing demand in the next three years.

The median house price is forecast to decline by 14% off the December 2021 peak, enabling Canberra to potentially shade Melbourne as the second most expensive city in Australia. A median house price of \$995,000 is expected for Melbourne at June 2025.



Victoria: dwelling prices



Source: BIS Oxford Economics, ABS and Price Finder

Percentage points (%)

Melbourne house price	2021: 19	2023: -11
	2022: 3	2024: 1
		2025: 5
Melbourne real house price	2021: 15	2023: -16
	2022: -3	2024: -1
		2025: 2
Melbourne unit price	2021: 7	2023: -7
	2022: 1	2024: 2
		2025: 5
Melbourne real unit price	2021: 3	2023: -12
	2022: -5	2024: -1
		2025: 3
Geelong house price	2021: 23	2023: -8
	2022: 8	2024: 1
		2025: 4
Bendigo house price	2021: 25	2023: -8
	2022: 15	2024: 1
		2025: 4
Ballarat house price	2021: 24	2023: -9
	2022: 18	2024: 1
		2025: 3



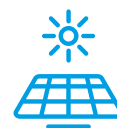
Melbourne Unit Market

Units, rather than houses, are the build form targeted more by investors with approximately 60% of units in Greater Melbourne rented. Melbourne's rental market plunged with the pandemic, but with significant discrepancy by geography and dwelling type. Unit rents fell 15% from the March 2020 peak, while houses held relatively flat. However, the reopening of international borders is restoring rental demand. This tightening of rental vacancy rates is occurring in Inner Melbourne - where the most slack has been evident. The turnaround in unit rents is well underway. Unit rents are expected to have fully recovered losses sustained during the pandemic by December 2022. Prices started to ease in the June quarter of 2022, a process set to continue over 2022/23 as recent interest rate rises may have slightly further to run. The median unit price in Melbourne was \$649,000 at June 2022.

With the border reopening and international students returning, Victoria's population growth rate is set to bounce back to 1.5% by 2022/23, before settling below its elevated pre-pandemic base in the medium term. Acute pressure in the rental market is set to be sustained by the return of overseas migration, spurring double digit growth in asking rents across inner city markets in the year ahead. Following the stabilisation of the lending environment from mid-2023, investor demand is forecast to return to growth in early 2024. Off a weak base, a rise in attached dwelling construction will be aided from social housing through the State Government's 'Big Housing Build', and build-to-rent investment. After reaching a trough in late 2023, the median unit price in Melbourne is set to return to around \$647,000 by June 2025.

Regional Victoria Centres

Melbourne has incurred most of the brunt from the falls in overseas and interstate migration. Intrastate migration patterns have also shifted considerably, with working from home trends allowing the regions to continue to benefit from a break in the nexus between the location of home versus employment. Whilst Melbourne's population growth is expected to recover from 2021/22, its share of population increment will be lower. Regions such as Geelong, Bendigo and Ballarat are geared to record above or on par population growth to the capital, reflecting the shift in preferences toward regional locations.



Rooftop solar panels generate a third of Victoria's total residential electricity demand⁴⁴

Queensland outlook

Strong migration from other states and a recovering tourism sector provides a supportive outlook.

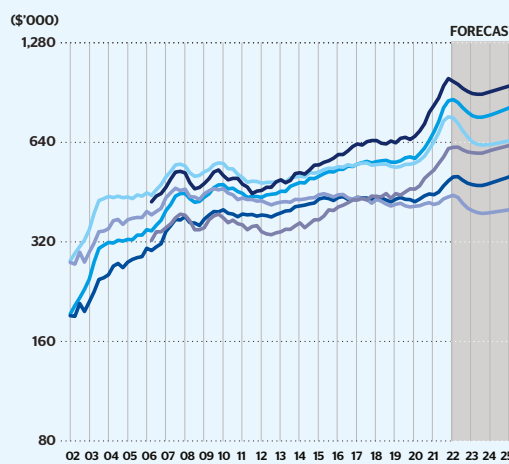


Brisbane House Market

The Brisbane housing market was the strongest performer in 2021, with the median house price increasing 32% over the year - compared to 22% nationally. Brisbane continued to outperform most cities through 2022, despite enduring major flooding earlier in the year. The city recorded robust growth while other markets have slowed significantly. Helped by an influx of interstate migrants from the southern states over the past two years, pressure on the dwelling stock has risen, with a strong dwelling stock deficiency emerging in 2021/22. The relative affordability of the city compared to Sydney and Melbourne has also assisted (although this gap is waning). This laid the foundation for a strong 2021/22, with a 25% lift recorded in the median house price to \$864,000 at June 2022.

Many of these positive signs for Brisbane's housing market won't disappear immediately. The strong population growth, affordability and dwelling stock balance will help the city to outperform most others in the short run. However, credit conditions have tightened and, like elsewhere, lower borrowing capacities are expected to crimp affordability and drag on prices. New dwelling supply is geared to lift as strong new house and land sales increasingly materialise into completions. The relative affordability advantage of Brisbane to Sydney and Melbourne has shrunk over the last 12 months but this will stabilise over the coming three years to 2024/25 as the median house price is forecast to sit at approximately \$819,000 in June 2025.

Brisbane and Gold Coast: dwelling prices



Source: BIS Oxford Economics, ABS and Price Finder

Percentage points (%)

Brisbane house price			
2021:	20	2023:	-11
2022:	25	2024:	1
		2025:	5

Brisbane real house price			
2021:	16	2023:	-15
2022:	18	2024:	-2
		2025:	3

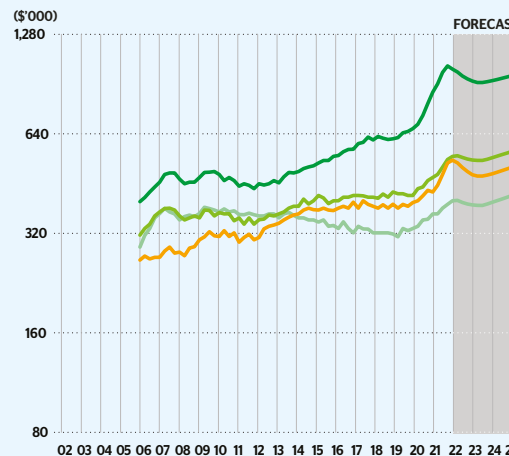
Brisbane unit price			
2021:	5	2023:	-5
2022:	13	2024:	1
		2025:	5

Brisbane real unit price			
2021:	1	2023:	-10
2022:	7	2024:	-1
		2025:	2

Gold Coast house price			
2021:	24	2023:	-8
2022:	18	2024:	1
		2025:	4

Gold Coast unit price			
2021:	14	2023:	-4
2022:	17	2024:	2
		2025:	4

Regional Queensland: dwelling prices



Source: BIS Oxford Economics, ABS and Price Finder

Sunshine Coast house price			
2021:	29	2023:	-8
2022:	17	2024:	0
		2025:	4

Townsville house price			
2021:	11	2023:	-3
2022:	10	2024:	2
		2025:	5

Cairns house price			
2021:	13	2023:	-2
2022:	16	2024:	2
		2025:	4

Toowoomba house price			
2021:	8	2023:	-10
2022:	25	2024:	1
		2025:	5



Rooftop solar has been installed in nearly 900,000 homes in Queensland, the most of any state or territory.

Regional Queensland Centres

A shift in preferences towards increased space and more lifestyle focused locations has benefitted Queensland's regional population growth. While Greater Brisbane holds about half of Queensland's population, lifestyle factors and affordability compared

to southern markets guarantees the Sunshine Coast and the Gold Coast will continue to experience relative market strength. Toowoomba, is also set to see solid population gains going forward, while long-time underperformers Townsville and Cairns will be supported by the prospect of returning domestic and international travel, along with the influence of robust commodity prices.

Brisbane Unit Market

Brisbane's unit prices have outperformed the national average, recording a rise of around 13% in 2021/22 compared to 3% nationally. The median unit price in Brisbane was \$505,000 in June 2022. Investors have flocked back in response to strong rent rises, with the value of investor lending in Queensland up four-fold in two years. High levels of net interstate migration, particularly young families, and changes in household formation have tightened rental markets in Brisbane, helping to lift rents from a bland growth profile which had persisted since 2014. As of June 2022, the rental vacancy rate remained extremely tight in Brisbane at 0.97% - the lowest rate recorded since March 1988. This has helped push rents up in 2021/22 by an estimated 8% for units and, in the three years to June 2025, unit rents are forecast to grow by a further 19%.

The full return of overseas migrants and continued interstate inflows will place further pressure on the rental stock whilst investor appetite remains strong. Recent proposed land tax changes, which would have seen some interstate property investors land tax liability increase, have been shelved, removing a potential downside risk to the outlook for unit prices. The 2032 Olympics and associated infrastructure should provide an enduring boost to developer and buyer optimism, and a growing pipeline of apartment projects suggests strong construction growth in the high-density sector. The median unit price is forecast to be approximately \$507,000 in June 2025 after reaching a mild trough in late 2023.



Western Australia outlook

Strong commodity prices and resource sector investments provide residential sector boost.

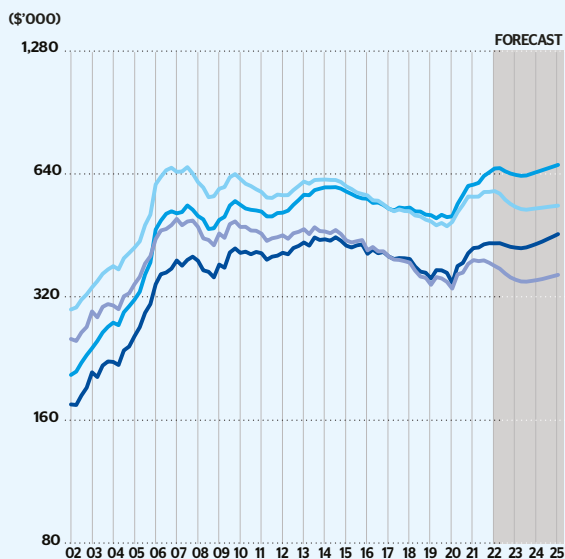
Perth House Market

Perth property prices continued to lift over 2021 with the median house price surpassing \$600,000 for the first time in March 2021, before rising listings caused momentum to slow in the middle stages of the year. Moving through 2022, the pace of growth has picked up bucking the national deceleration. Given this recent pick-up, the median Perth house price is estimated to have grown 10% in 2021/22 to \$665,000 at June 2022.

Supporting the recent resurgence in the Perth property market has been the reopening of domestic and international borders, greater housing affordability, a strong mining sector and jobs market,

combined with limited available stock. Overall, the median house price is forecast to hold over the next two years – a meaningful outperformance to the rest of Australia. Tightened credit availability is set to weigh on the ability of households to bid up prices. However, the affordability of the city relative to elsewhere around the country and relative to building new in the city, will help to put a floor under prices. The large jump in residential activity has exacerbated capacity constraints. Material costs have lifted, and acute trade labour shortages exist. This is placing significant pressure on build costs for which Perth is most susceptible. A rise in house prices of 4% in 2024/25 would see the median house price reach \$679,000 in June 2025.

Perth: dwelling prices



Source: BIS Oxford Economics, ABS and Price Finder

Percentage points (%)

Perth house price			
2021:	20	2023:	-4
2022:	10	2024:	2
		2025:	4

Perth real house price			
2021:	15	2023:	-9
2022:	3	2024:	-1
		2025:	2

Perth unit price			
2021:	22	2023:	-2
2022:	3	2024:	2
		2025:	6

Perth real unit price			
2021:	17	2023:	-8
2022:	-3	2024:	0
		2025:	3





Renewable energy generation has more than doubled in WA in just three years⁴⁵. Renewable energy overtook gas in 2021 to become the state's biggest source of power⁴⁶.

Perth Unit Market

Population growth began to recover post the mining boom over 2018 and 2019, a process halted by the pandemic. With the border now having reopened, Western Australia's return to a net overseas migration inflow in 2021/22 is set to contribute to modestly higher population growth. Strong commodity prices and another round of resource sector investments is forecast to support an average net overseas migration inflow at a level moderately above the pre-pandemic base. The significant temporary population that makes up much of the mining sector workforce in Perth are key drivers of rental demand and growth in the unit market. Furthermore, backed by the 2019 reclassification of Perth as a regional location for migration purposes, the city is set to gain an increased share of student migration. The Perth unit market has firmed over 2021/22, rising 3% to \$436,000 and looks set to mostly avoid the national downwards trend in dwelling prices for at least the next year or so.

Pressure on housing stock will come from the return of overseas migration, relatively favourable housing affordability and rising resource sector investment. While recent interest rate rises will drag on demand, this may be offset by a sustained dwelling stock deficiency. The completion of new Metro net links and new social infrastructure in the Perth CBD will help draw out strong trend growth for infill development long term, with the median unit price forecast to reach \$459,000 in June 2025.

South Australia outlook

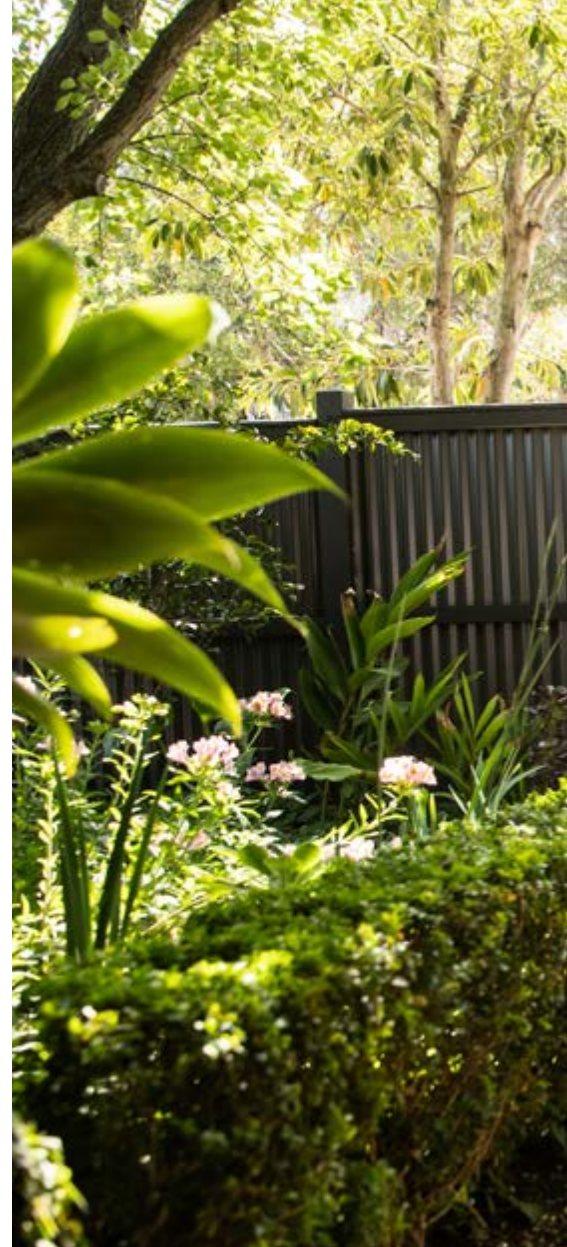
Positive interstate migration pressure and government investment continue to support economic growth.

Adelaide House Market

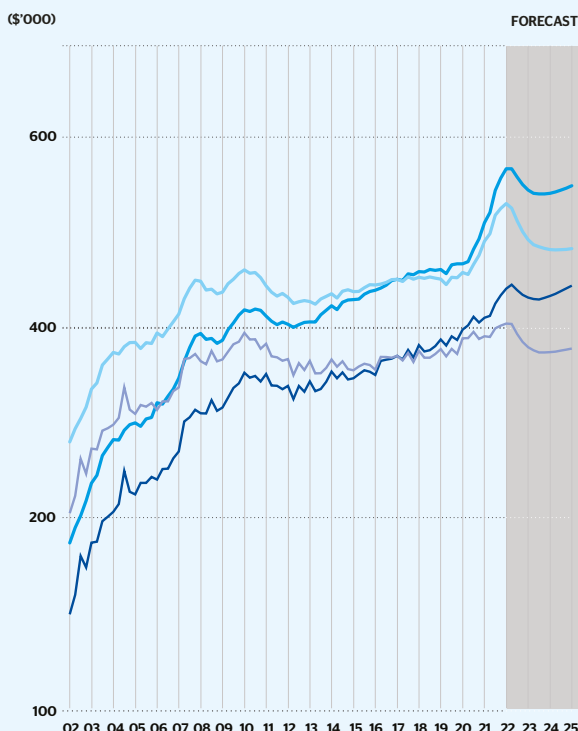
Price growth has been especially strong through the pandemic in Adelaide – historically one of Australia’s most stable markets. Uncharacteristic migration inflows from interstate, low supply and relative housing affordability fuelled Adelaide’s price growth over the last two years. The sudden boost to the state’s population has been in part made up of former residents returning to the state through the pandemic. With higher purchasing power on average, this has been a key factor providing a longer tail to price growth relative to the rest of the nation. As at June 2022, the median house price in Adelaide was 42% higher than in June 2020 and has continued to see robust growth while momentum in other markets



Australia’s first NatHERS 10 star home was built in Adelaide in 2021, using less than 4% of the energy of a standard 6-star home.



Adelaide: dwelling prices



Source: BIS Oxford Economics, ABS and Price Finder

Percentage points (%)

Adelaide house price

2021:	16	2023:	-8
2022:	22	2024:	-1
		2025:	3

Adelaide real house price

2021:	12	2023:	-12
2022:	15	2024:	-4
		2025:	0

Adelaide unit price

2021:	4	2023:	-3
2022:	11	2024:	1
		2025:	4

Adelaide real unit price

2021:	1	2023:	-8
2022:	5	2024:	-2
		2025:	1

has faltered. A strong 2021/22, with 22% house price growth recorded, saw the median house price break through the \$700,000 mark for the first time, reaching \$718,000 in June 2022.

Many of these positive signs for Adelaide’s housing market won’t immediately vanish, which will help the city to outperform most others in the short run. However, accommodative lending conditions have turned and lower borrowing capacities are expected to continue to drag on prices. The demand boost from net interstate migration is expected to fade over time. New dwelling supply is geared to lift as strong new house and land sales increasingly materialise into completions. The median house price in Adelaide is past the peak, and is anticipated to recede 6% over the coming three years, to \$676,000 by June 2025.



Adelaide Unit Market

Units account for a smaller percentage of new supply in Adelaide than the other capital cities, however an increasing trend towards attached dwellings is set to play out over time, with Adelaide's sizeable CBD area providing considerable infill opportunity. Like other cities, unit price growth has been strong in Adelaide but lags in comparison to houses. Price growth of 11% was recorded over 2021/22, with the median unit price reaching \$462,000 in June 2022.

The vacancy rate in Adelaide has trended down sharply, to a low of 0.4% as at June 2022, reflecting the emergence of a dwelling stock undersupply. This goes hand-in-hand with the acceleration of rents, which increased 9% for units in 2021/22. This has encouraged investor optimism, evident in strong lending growth for this segment. There is sufficient tightness in the market to support further growth in rents, which are forecast to lift by approximately 17% for units in the three years to June 2025. Coming off a weaker run up, and with rental market conditions to continue pulling out investor demand, unit prices are expected to show resilience over the upcoming three-year period, with the median unit price expected to be \$468,000 in June 2025.



Tasmania outlook

A persistent undersupply of dwellings set to be tested by developing affordability pressures.

Hobart House Market

An extremely tight and persistent dwelling stock deficiency and housing stimulus have underpinned Hobart's strong house price growth over the last two years. Momentum has faded since the peak rate of quarterly growth was reached in September 2021. A sharp rise in property listings is dragging on growth with prices expected to have peaked at \$811,000 in the June quarter 2022. Despite the deceleration in momentum, the median house price in Hobart has lifted 19% over 2021/22.

Hobart is expected to become the third most unaffordable market in Australia, and this stretched housing affordability makes Hobart sensitive to interest rate moves. Property prices are expected to begin falling from September 2022. However, a persistent undersupply of dwellings will prevent a fall in property prices of the same magnitude as Sydney and Melbourne's throughout the next 18 months. The median house price is forecast to fall by around 8% in 2022/23, modest growth lifts the median to \$776,000 in June 2025.

Hobart Unit Market

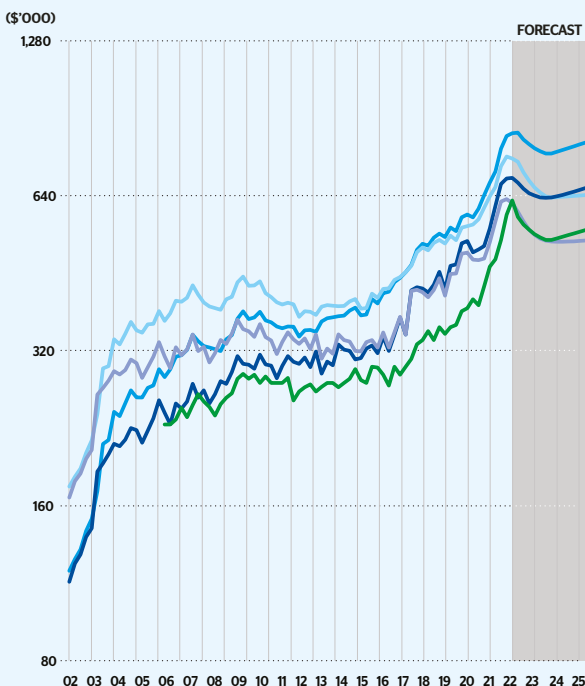
Briefly turning negative in 2020/21, Tasmania's net interstate migration movements have been reverting to an inflow in 2021/22, which will hold over the coming three years. An international student driven uptick in net overseas migration over the past few years was curbed by the pandemic, however, the state's net population inflow from overseas is expected to reach a base above 2,400 people per annum from 2022/23.





Tasmania is the only state or territory with negative net total greenhouse gas emissions due to renewable energy generation and large forests to capture carbon.

Tasmania: dwelling prices



Source: BIS Oxford Economics, ABS and Price Finder

Percentage points (%)

Hobart house price

2021:	22	2023:	-8
2022:	19	2024:	1
		2025:	3

Hobart real house price

2021:	18	2023:	-13
2022:	12	2024:	-2
		2025:	1

Hobart unit price

2021:	23	2023:	-6
2022:	11	2024:	1
		2025:	3

Hobart real unit price

2021:	18	2023:	-11
2022:	4	2024:	-1
		2025:	1

Launceston house price

2021:	19	2023:	-9
2022:	20	2024:	0
		2025:	3

The border closure during the pandemic has predominately weighed on Hobart, however the repair of inflows following the border opening should provide support for dwelling demand. This will continue the strong gains already seen in rental prices, reflecting the tight rental vacancy conditions in Hobart. The median unit price rose by 11% in the past year to \$651,000 in June 2022. Unit prices are expected to decline to a trough of around \$610,000 in late 2023, before rising to approximately \$636,000 in June 2025.

Launceston

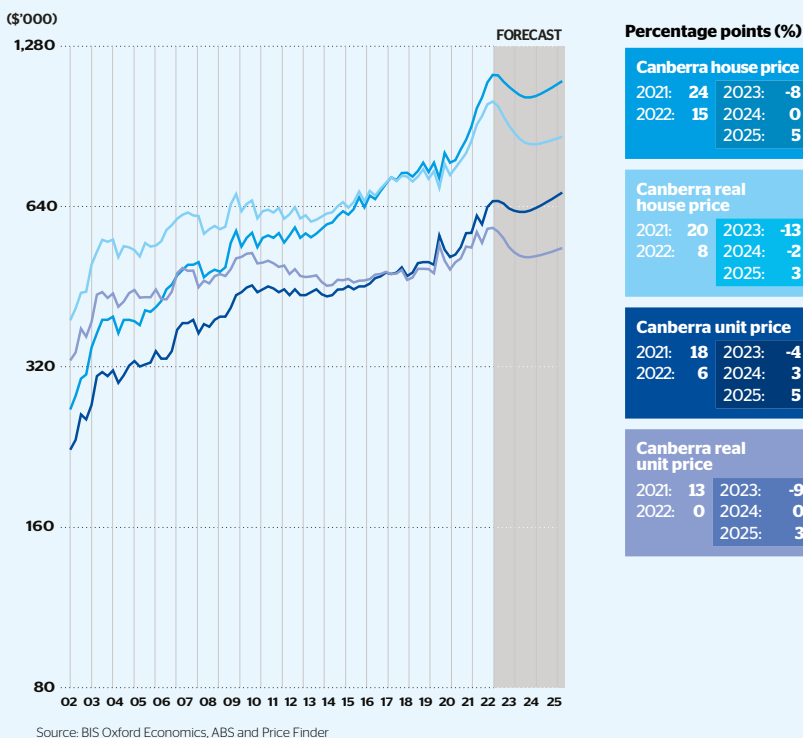
As in other regional centres, Launceston's market typically tracks Hobart, albeit with a lag. This has been the case recently, with the strength of Hobart's market spilling over to Launceston. House prices rose 20% in 2021/22, similar to the price growth seen in the state capital six months prior, bringing the median house price to \$560,000. The median house price in Launceston is forecast to track that of Hobart relatively closely, with a forecast median of \$528,000 at June 2025.

Australian Capital Territory outlook

Robust public administration employment continues to fuel a tight rental market.



Australian Capital Territory: dwelling prices



Canberra House Market

Following a steep ascent, the median Canberra house price eclipsed the \$1 million mark in March 2022, making it the third most expensive capital city in Australia. The relative outperformance over the pandemic is attributed to high levels of household income, persistent pressure on the dwelling stock, and falling listings. Momentum for house prices has slowed in Canberra but growth of 14% was recorded over 2021/22, taking the median house price to \$1,019,000 in June 2022.

Canberra's average household income is significantly higher than elsewhere around Australia, so affordability is somewhat less of a concern than in Sydney and Melbourne despite the impressive price tags. Still, rises in the cash rate will flow through to materially higher borrowing costs, worsening affordability and dragging on prices. Later, new dwelling supply will bring the stock deficiency back to balance, relieving pressure on the property market. A 9% fall in the median house price is expected over the coming 18 months before the median house price rises to \$996,000 by June 2025.

Canberra Unit Market

Pressure on the Canberra dwelling stock has risen through the pandemic. Whilst considerable new apartment supply became available, this was soaked up by household preference shifts for more space and the return of expats elevating household formation rates. The same factors driving house price growth (i.e. high incomes, a dwelling undersupply and falling sale listings) also helped contribute to solid growth in unit prices as well. Unit price growth of 6% during the year brought the median to \$606,000 at June 2022.

The return of overseas migration and strong public sector hiring is set to underpin population growth above the national rate over the coming years. Reflecting the land release strategy of the A.C.T. Government, new construction is geared to remain heavily skewed towards apartments, representing almost three quarters of new supply. Housing affordability is also influencing the likely dwelling mix of new supply and unit demand, pushing the median unit price to approximately \$627,000 by June 2025.



The ACT is powered by 100% renewable electricity.

Northern Territory outlook

Defence spending set to further support a tight residential vacancy.

Darwin House Market

Mining, construction and defence dominate the economy, with volatility in population growth introduced by the outsized influence of major projects. In the coming years, elevated defence investment should extend the net interstate migration recovery. Net overseas migration inflows are expected to trend upwards over the next three years as the border reopens and the economy improves. Following successive years of price declines, Darwin's median house price grew 30% over 2020/21 and then rose a further 5% in 2021/22, bringing the median house price to \$627,000 in June 2022. Despite this strong rebound, Darwin remains the most affordable capital city.

The market has several factors playing in its favour, a recovery in population flows will be encouraged by major investments in resources and defence. Works on the Barossa LNG project should prop up demand during construction while non-residential developments related to the Darwin City Deal may create greater job opportunities. Simultaneously, an improving demand/supply dwelling balance will help to place a floor under prices over the near term.

Overall, house prices are expected to flatten in the coming year, faring better than other cities across the nation. Having only just recovered the losses incurred during the resources boom hangover, the room for prices to fall further is limited. The median house price is expected to grow in the two following years, taking the median house price in Darwin to \$647,000 in June 2025

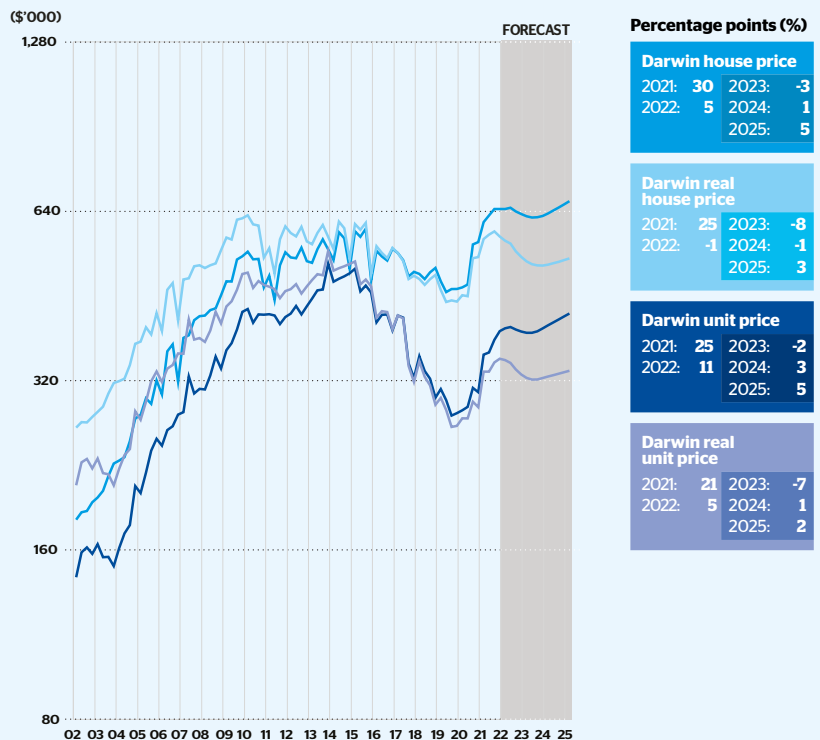
Darwin Unit Market

Over time, the Northern Territory's strategic positioning in relation to Asia combined with its significant natural resource endowment will see it strengthen as a regional defence and logistics hub. Median unit prices have risen by around 11% to \$388,000 in 2021/22, following a 25% lift the year prior.



Less than 2% of total emissions in the Northern Territory come from the residential sector, significantly lower than the national average.

Darwin: dwelling prices



Source: BIS Oxford Economics, ABS and Price Finder

Unit prices are expected to hold firm in the upcoming year as tourism returns, employment prospects will improve and the dwelling oversupply erodes. Enticing investors is high gross unit rental yields

on offer at near 6%. Similar to several other capital cities, Darwin's unit prices are expected to outpace house price growth to mid-2025 with a median unit price increase to \$412,000 expected in June 2025.

Glossary of terms

Carbon offset	Offset units are used to compensate for emissions an entity produces. Offset units are generated by projects that reduce, remove or capture emissions from the atmosphere such as reforestation, renewable energy or energy efficiency.
Cool roofs	Cool roofs reduce the amount of heat held and transferred to the building below, keep the building cooler and at a more constant temperature. Cool roofs have additives to the base material or paint that reflect the sun's heat and emit absorbed radiation back into the atmosphere at a higher rate than standard materials.
Climate zones	There are eight climatic zones in Australia based on humidity, temperature and rainfall characteristics. Homes in each separate climate zone are likely to require significant differences in house design.
Direct emissions	Direct emissions are produced from sources within the boundary of an entity and as a result of that entity's activities. A key example for the residential sector is the use of vehicles.
Dwelling market	Includes both houses and units.
Feed-in-tariff (FiT)	A payment for electricity fed into the supply grid from a renewable energy source, such as wind or solar panels. FiTs can be mandated by the government or offered voluntarily by an electricity retailer.
First home buyers	Australian Bureau of Statistics (ABS) data on loans to first home buyers are derived from returns submitted by financial institutions to APRA at the time of the loan approval. A first home buyer is defined as "a borrower entering the owner occupier home ownership market for the first time". The definition includes all first home buyers obtaining a loan (and not just those eligible for grants).
Foreign investors	Overseas resident purchasers. Foreign investors can only buy a new dwelling, while a temporary resident can purchase an established dwelling that must be sold upon returning home. The Foreign Investment Review Board (FIRB) reports the number and dollar amount in billions approved for residential purchases (which includes the entire value of buildings where 100% of dwellings have been pre-approved for overseas buyers, although all of these may not have been taken up) for investment by temporary residents and people overseas.
GreenPower	GreenPower is a government-managed program that lets individuals and businesses support renewable energy generation. When buying GreenPower from an electricity retailer, renewable energy is added to the grid on behalf of the consumer or business.
Green finance	Financing such as home loans that are offered to consumers and businesses for products and practices that are environmentally and socially responsible and meet a set of sustainable criteria.
House market	Detached or separate dwellings that do not share a wall with adjoining dwellings.
Housing affordability	Housing affordability in this report is defined by the mortgage repayments on a 25-year loan of 75% of the median house price at June 30 each year, at the prevailing June 30 standard variable rate, as a percentage of average household disposable income. Average household disposable income is derived from the National Accounts data, based on aggregate income divided by an estimate of the number of households.
Interest rates	Interest rates are set by the Reserve Bank of Australia (RBA) as the mechanism for maintaining economic conditions at a level compatible with stable, low, inflation. The RBA sets the "overnight cash rate", against which financial institutions reference their lending rates. Higher interest rates reduce spending in the economy and reduce inflationary pressure. If inflation pressures are benign, then lower interest rates can encourage more spending and economic growth.
Median price	Refers to the mid-point of sales that have taken place in a period and is considered a better indicative measure of prices than the average, which can be more influenced by extreme results.

NatHERS	Nationwide House Energy Rating Scheme (NatHERS) accredits a number of tools that can measure and rate a home's energy efficiency. These tools provide a 'measuring tape' for rating the energy performance of Australian homes. These tools are used by governments for regulatory purposes and the finance sector to underpin green loans, which are driving the delivery of above minimum standard homes.
Net migration inflow	When the total number of migration arrivals is greater than the total number of departures.
Net migration outflow	When the total number of migration departures is greater than the total number of arrivals.
Non-transport greenhouse	Greenhouse gas emissions that are not attributed to transport. For example, households use of vehicles would not be included in this measure.
Payback period	The time taken to recoup the capital outlay from an investment. An example being the time taken for rooftop solar panels to recoup in savings the amount that it cost to install the solar panels.
Real median price	The median price after accounting for the impact of inflation. The real median price allows for a better comparison of price growth over time as, during periods of high inflation, significant rises in the median house price may be underpinned by the inflation rate and do not necessarily reflect a strong market.
Indicative rental yield	The rental yield of a dwelling is the rent divided by the value. However, actual rent and values data for individual dwellings is unavailable. Consequently, an indicative yield is calculated as the median three-bedroom house rent divided by the median house price. The indicative yield slightly understates actual rental yields, as the median house price is reflective of the whole market (investors and owner occupiers) while rents are reflective of just properties in the investment market. Investment properties are more likely to be priced below the median house price of all dwellings, although achieve a typical rent. Nevertheless, movement in the indicative yield should correspond with actual yields. The rental return has been compared with the cost of financing by using the measurements for indicative rental yield and the standard variable interest rate respectively.
Indirect emissions	Emissions generated in the wider economy as a consequence of an entity's activities (particularly from its demand for goods and services), but which are physically produced by the activities of another entity. The most important category of indirect emissions is from the consumption of electricity.
Renewable energy	Energy that is produced using natural resources that are abundant and able to be constantly renewed, including the sun, wind, water and trees.
Residential market	Same as dwelling market.
Small-scale solar system	Solar power system up to 100kW.
Unit market	Includes all forms of multi-unit dwellings including townhouses, villa units, semi-detached dwellings, terraces, flats and apartments.
Vacancy rate	The vacancy rate is calculated as the number of unoccupied rental dwellings as a percentage of the total rental stock and is sourced from a survey of state Real Estate Institute members. The vacancy rate in each city is a measure of the balance of rental demand and rental supply. A vacancy rate of 3% in a market is considered balanced, where rents on average will rise broadly in line with inflation. A vacancy rate of 1% indicates a tight rental market that will result in strong rental growth. A vacancy rate of 7% indicates an oversupplied rental market that will result in rental declines.

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