

REWIRING AUSTRALIA · RESEARCH REPORT

Home energy savings report 2026

Plug in and pay less

Our latest modelling of the savings from going electric at home, and how Australia can electrify faster.

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Rewiring Australia

rewiringaustralia.org

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SUMMARY

Plug in and pay less

The big switch to electric is accelerating across Australia. There is rooftop solar on four out of every ten homes across the country; in some states half of homes already run on solar. Every year, tens of thousands of homes install a heat pump which can use solar power to efficiently heat hot water. Since July 2025, more than 500,000 households have installed a home battery; people are adopting batteries even faster than they did solar.

Then the fuel supply shock in March 2026 has triggered a deep change in the car market as households have bought up electric vehicles (EVs) to replace their petrol cars faster than they can be imported. In July and August 2026, battery-only EVs (i.e. excluding hybrids) eclipsed both petrol and diesel to become the best-selling fuel-type in Australia for the first time.

The destination is clear: Australia will be a competitive, electric nation running efficient electric appliances powered by secure, local solar, wind and batteries. This future electric Australia will enjoy the same level of comfort and convenience, with lower bills, greater autonomy and enhanced economic and energy security. What we can still decide is how much money Australia will burn on fossil fuels along the way. Heat pumps, batteries and EVs are still at an early stage of adoption, the faster they dominate the mainstream market, the sooner the benefits and savings will be felt.

The faster we electrify, the more we save.

Australians are dumping expensive fossil fuels and saving thousands of dollars a year by plugging in their electric upgrades. By upgrading their appliances from gas to electric and replacing petrol cars with EVs households can cut their energy bills by $3,000 a year on average, including upfront costs. Add rooftop solar and a battery and a household can save $4,300 on average. Last year we found that when replacing or upgrading any household appliance, choosing the electric option is cheaper over its lifetime. In the past year, those savings have increased. It remains the case that some of these electric appliances are more expensive than the petrol or gas appliance up front, but they cost so much less to run that over 15 years electric is considerably cheaper.

This report lays out the results of our latest modelling of the savings from residential electrification and explores how Australia can electrify faster.

$3,000
saved a year on average by going electric, including upfront costs

$4,300
saved a year on average when you add rooftop solar and a battery

500,000+
households have installed a home battery since July 2025

1 in 4
new cars sold in August and September 2026 was electric



1

CHAPTER ONE

The switch to solar and electric is accelerating

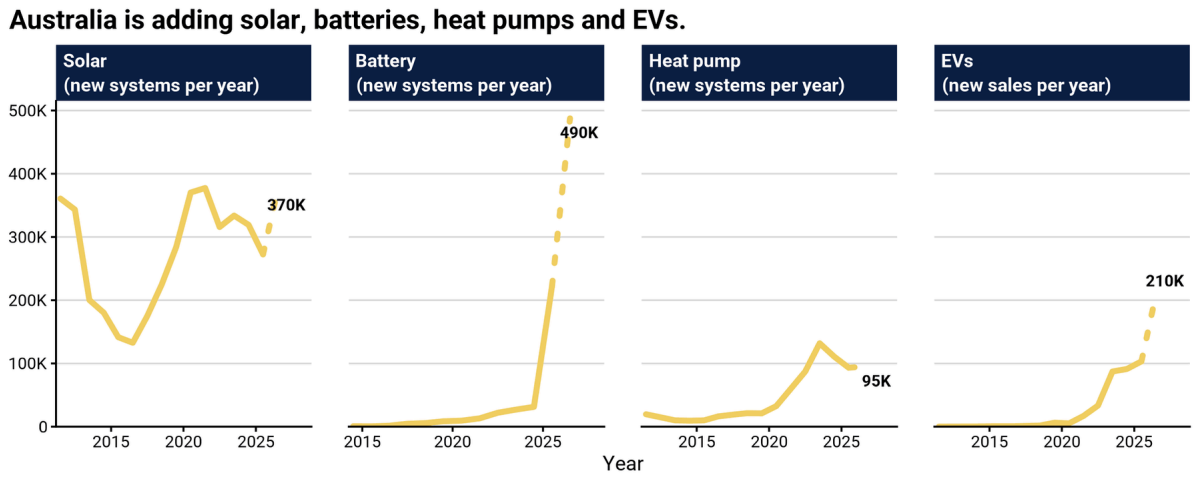
Globally, the shift away from burning fuels and towards electricity is gathering speed. This acceleration is driven primarily by economic headwinds: fossil fuels are volatile with prices rising, while the cost of renewable electricity generation and storage continues to fall. The shift to electric is now unstoppable, but the speed of the shift depends on choices we make today.

Australian homes are leading the charge towards an all-electric future as households choose new electric appliances. More than 4.3 million Australian households have installed rooftop solar, generating power from their roof and reducing their reliance on coal and gas. Batteries, heat pumps and EVs are taking off too, cutting our use of gas and petrol.

For Australian households, going electric saves money. Running on electricity leads to dramatically lower energy bills overall: your electricity bill may go up, but the elimination of the gas and petrol spending will nearly halve your cost. Switching your hot water, heating, cooking and car to electric cuts the average household's energy bills by $4,600 a year. Add solar and a battery and your bills fall by $8,000. Even after paying for the upgrades, households come out $3,000 to $4,300 a year ahead.

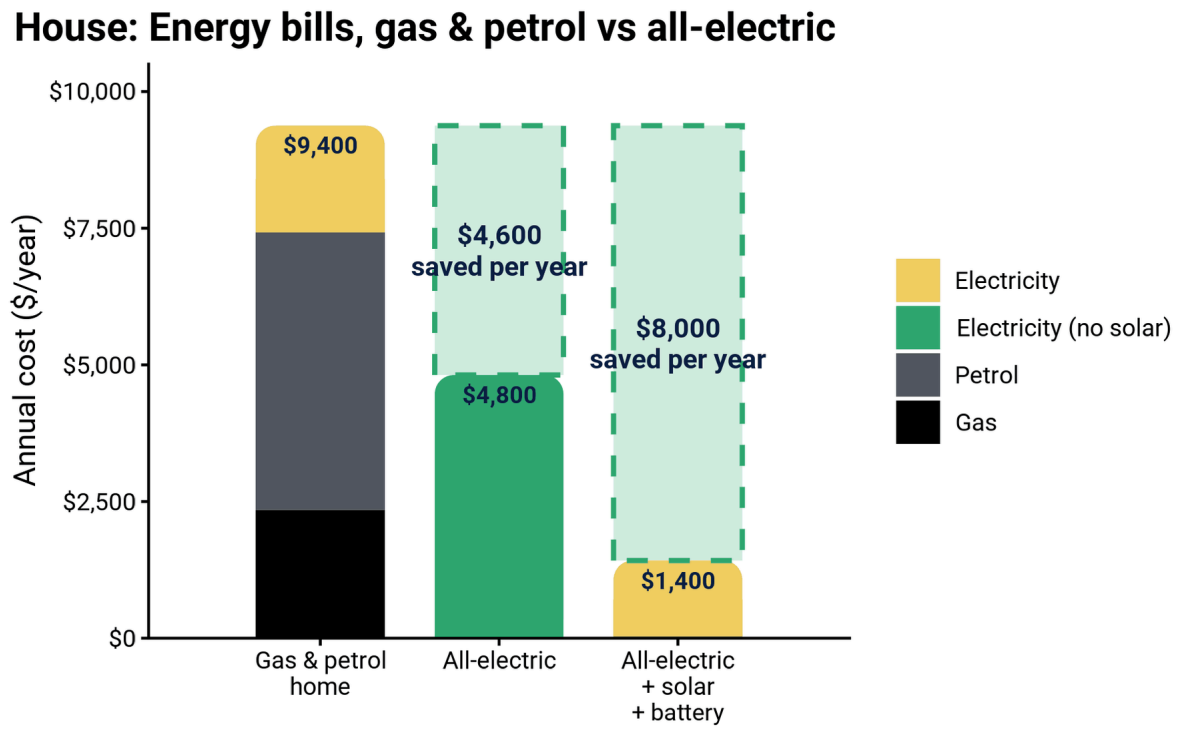


Figure 1



Source: CER, AAA
Dotted: Rewiring Australia seasonal forecast to end of 2026

Figure 2

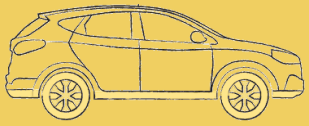


Source: Rewiring Australia energy savings model
15-yr energy bills annualised, excl. upfront, loan & maintenance costs; 10 kW solar + 15 kWh battery

Figure 3

Six choices that cut your bills

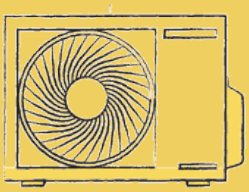
Yearly bill savings for the average house, compared with gas and petrol



Drive electric vehicles

$3,100

compared to petrol



Heat with your air-conditioner

$750

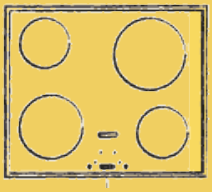
compared to a gas heater



Heat pump hot water

$350

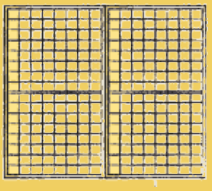
compared to gas hot water



Cook on induction

$40 + $330

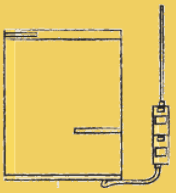
cheaper cooking, plus no gas account



Add rooftop solar

$1,500

off this household's bills



Add a home battery

$1,300

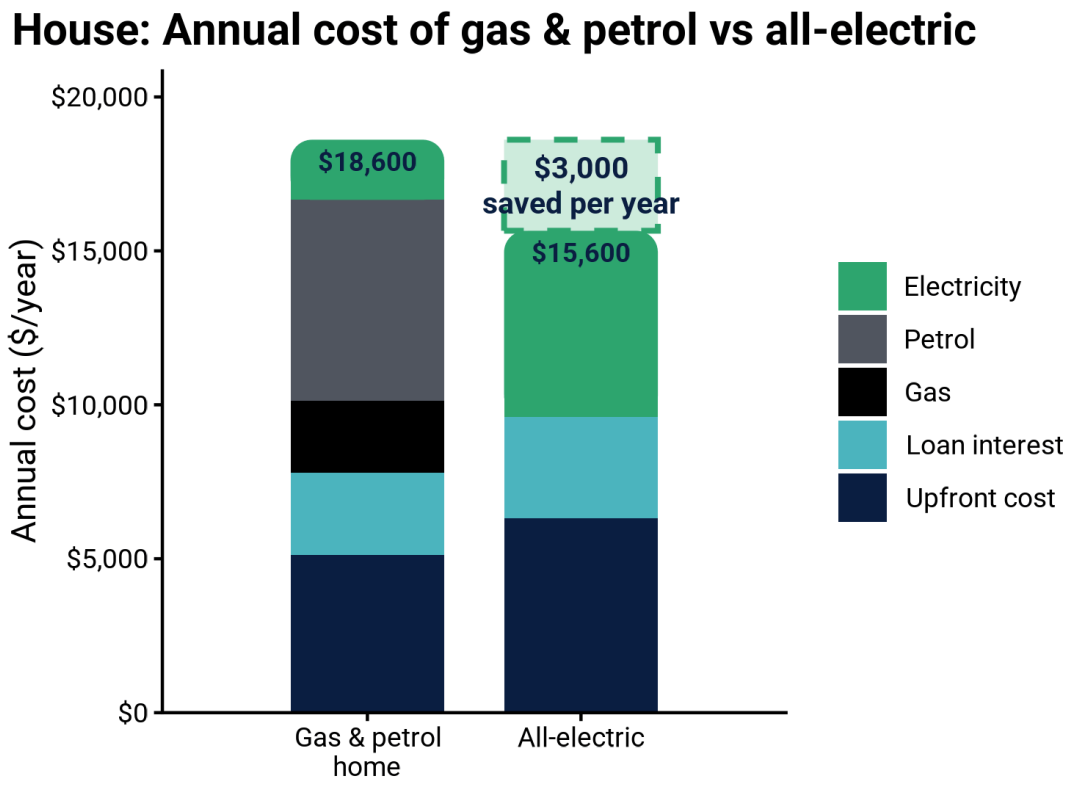
plus about $600 on a time-of-use tariff

These savings come from six choices: how you heat your hot water and your house, how you cook, the vehicle you drive, and installing solar and a battery. Each one of these contributes to lower bills. Driving EVs is the largest contributor, saving a household $3,100 compared to petrol. Using an air-conditioner for heating saves $750 and the hot water heat pumps saves another $350. Cooking on induction is $40 cheaper than burning gas and you can now cancel your gas account, saving $330 a year. Then adding solar cuts this household’s bills by $1,500 and a battery saves another $1,300. In addition, having a battery makes it practical and economic to switch to a time-of-use electricity tariff which we estimate saves around $600 over a year.

Including upfront costs

When we consider the upfront costs for the new appliances and vehicles, the benefits are offset by the upfront cost, but households still save thousands of dollars a year. Our research suggests that efficient electric versions are still a little more expensive than their gas or petrol counterparts. Our analysis includes the upfront cost as well as 6% interest. In an average house, upgrading your appliances, without installing rooftop solar or a battery, can bring average savings of $3,000 a year. This household spends a little more upfront on a heat pump and EV but spends half as much each year on running costs.

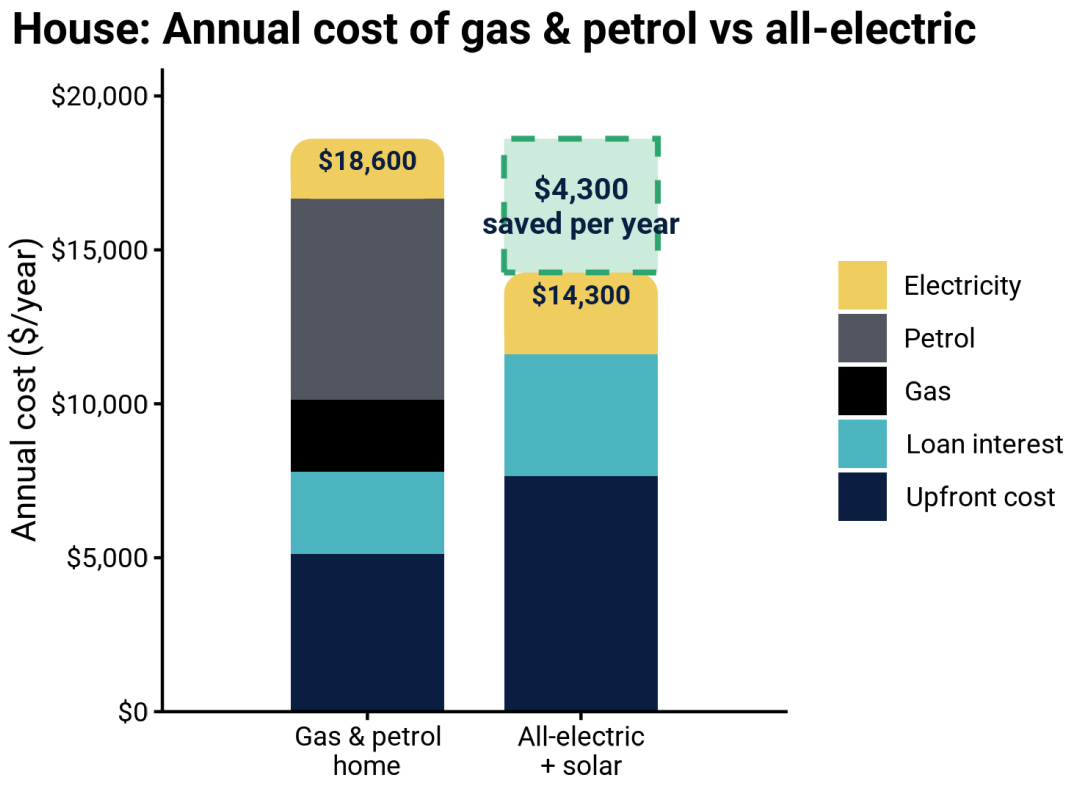
Figure 4



Source: Rewiring Australia energy savings model
15-yr cost annualised

If you add rooftop solar and a battery, these savings jump up to $4,300 a year. Adding a battery enables the household to make good use of a time-of-use tariff - where electricity prices vary depending on the time of day - which helps to lower bills.

Figure 5



Source: Rewiring Australia energy savings model
15-yr cost annualised; 10 kW solar + 15 kWh battery

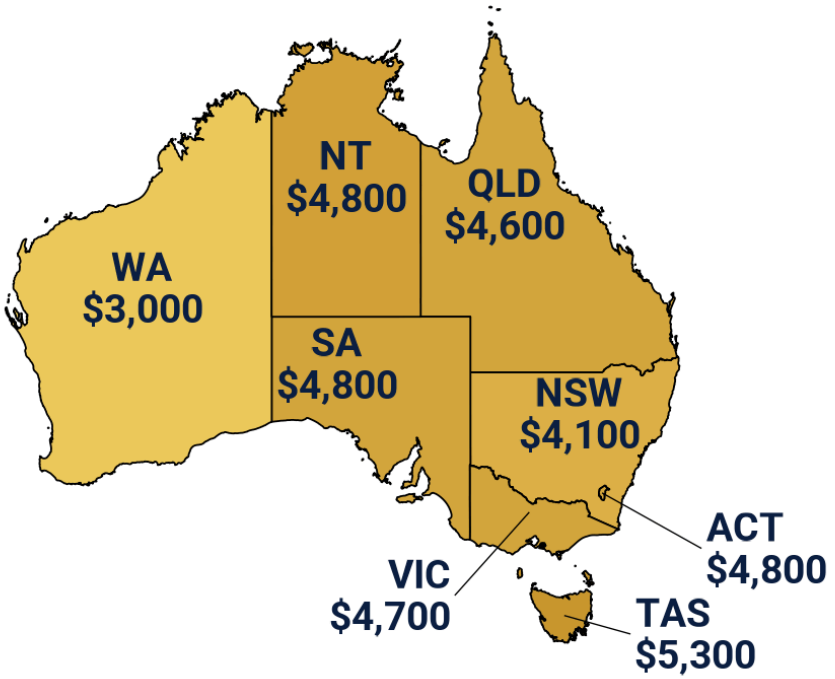
Efficient electric is cheaper in every state

The average savings vary across the country depending on the cost of electricity and gas and other local factors, but in every state going electric will save households money. The savings vary for a number of reasons. Down south in Tasmania, Victoria and the ACT, the high heating demand through cold winters increase energy use and savings. South Australia has high electricity and gas costs and so rooftop solar and electrification save more money. Lower gas prices in Western Australia reduce the savings compared to other states. In the Northern Territory and Queensland, higher driving distances increase the benefits of going electric; plus in the Northern Territory there is almost no reticulated gas, so the comparison here is between electric and bottled LPG (which is more expensive than mains gas) which contributes to higher savings.

Figure 6

Annual savings from going all-electric

All-electric home with 10 kW solar + 15 kWh battery, vs a gas & petrol home



Source: Rewiring Australia energy savings model.
15-yr cost annualised, loan-financed at 6%; TOU tariff; average occupancy and cars per household by state.
NT compared with an LPG home.

PLAN YOUR OWN SWITCH

Electric Saul

These savings are averages for each state, but using our new tool, **Electric Saul**, you can estimate the bill savings for your home and begin to plan your own switch to electric appliances.

Electric Saul is an AI-powered tool which we at Rewiring Australia have built with Google to support households to identify options and plan their electric upgrades.

electricsaul.com



CASE STUDY · HOMEOWNERS

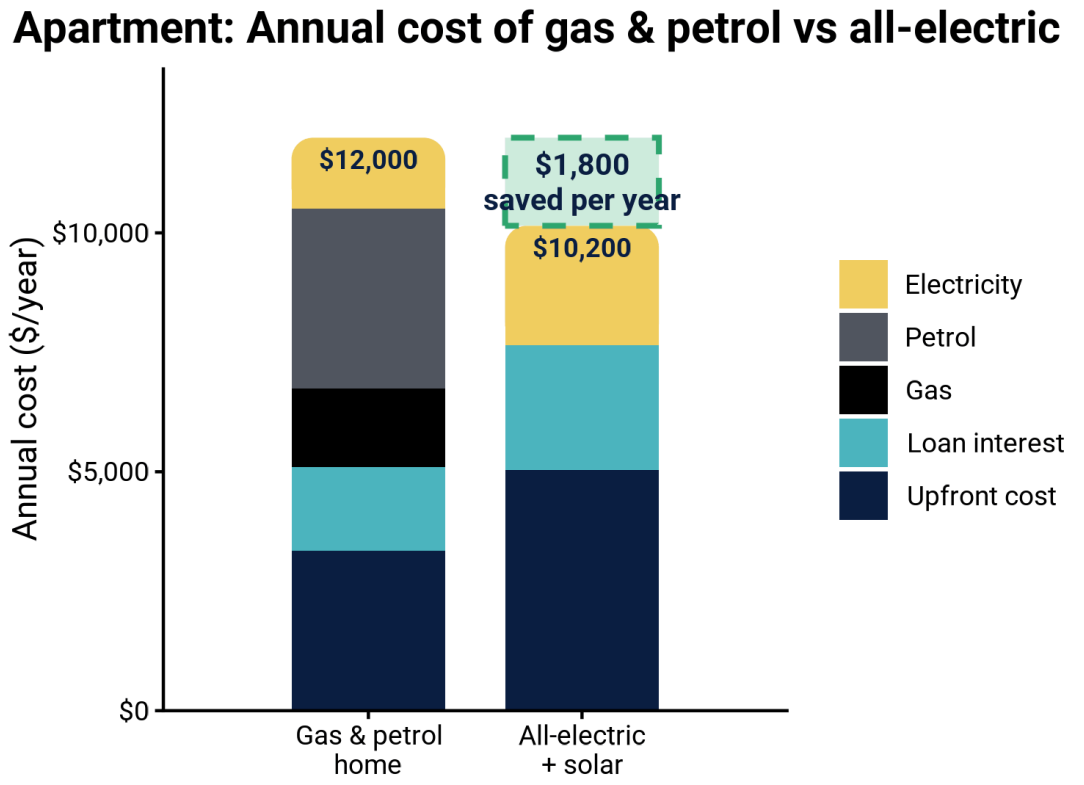
Billy and Tosca

Billy and Tosca's all-electric home is saving them around $2,000 a year on their energy bills. But the benefits go beyond the household budget. Their son, Chip, has asthma, so reducing exposure to indoor gas was an important motivation for making the switch. They replaced their old gas hot water system with an electric heat pump, installed solar panels and a battery, and switched to an induction cooktop. Their next step will be switching to an EV in the coming years.

How much can apartment residents save?

Going electric will save money for those living in both houses and apartments. Apartments tend to use less energy than freestanding houses, these energy savings are mainly in space heating and cooling because apartments tend to have fewer external walls. Our modelling shows that apartments stand to save $1,800 a year from upgrading to electric.

Figure 7



Source: Rewiring Australia energy savings model
15-yr cost annualised; 2.5 kW solar + 5 kWh battery + 1 SUV

However, most apartments do not have solar. Polling from Energy Consumers Australia suggests that just 6% of apartments have rooftops solar, despite additional subsidies for solar on apartments in Victoria, New South Wales and the ACT.

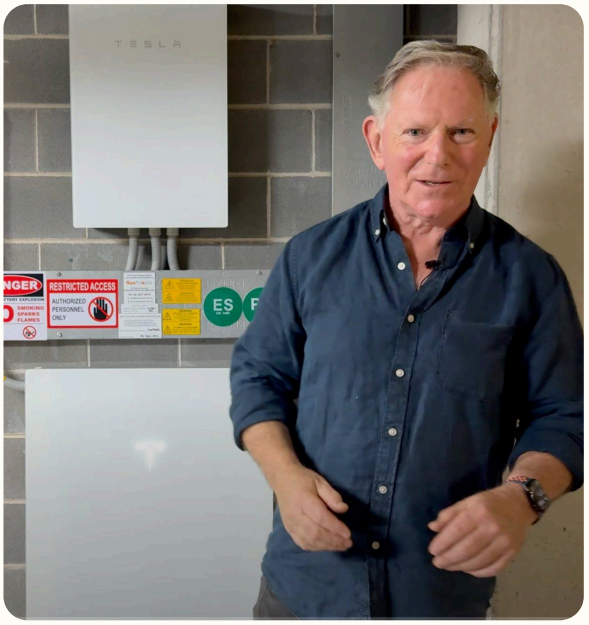
In going electric apartments face a steeplechase of hurdles compared with freestanding homes. Many strata blocks have a communal hot water system and the heating system may also be centralised. Other apartments cannot easily locate a hot water system either inside or on a balcony. Navigating shared property, owners' corporation governance, and funding all bring challenges when making infrastructure upgrades. Some states, such as NSW and the ACT, have moved proactively to lower these hurdles.

BOX 1

NSW strata rule changes since 2021 have made it easier to get solar and go electric:

- A simple majority is needed to pass motions for sustainability upgrades (75% needed previously, and still in other states).
- Prohibition of by laws which prevent sustainability upgrades (such as heat pump installation) on aesthetic grounds.
- A standing item on every owners' corporation Annual General Meeting agenda to consider sustainability upgrades.

Solar and batteries require collective agreement to pass either a by-law to allow individual owners to install separate systems or a special resolution to install a large shared system. Shared systems may supply common areas (e.g. lifts and shared energy infrastructure) or individual units. Sharing power with individual units usually requires sophisticated 'solar sharing' hardware. This smart technology actively manages which units receive solar power to maximise on-site solar consumption, whilst also ensuring a fair allocation of power. This hardware can cost $1,000-$2,000 per unit.



Apartment owner Steve Brine with his home battery.



CASE STUDY · STRATA

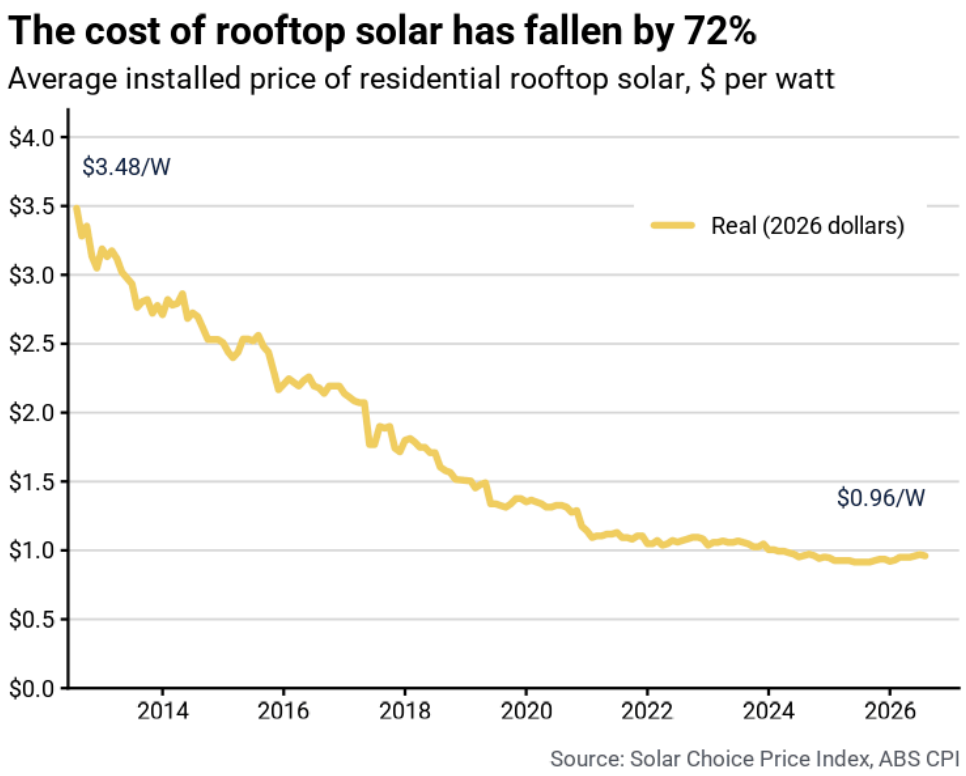
Catherine and Reg

Catherine and Reg live in a block of 40 units where solar has already been installed on their rooftops. Their forward thinking body corporate also agreed to install solar and batteries to power the common areas. The next step is replacing the centralised instant gas hot water system with heat pump electric, at a cost of $2500 per unit. With solar and battery storage generating excess energy, residents expect their hot water costs to be close to zero.

The future is solar electric

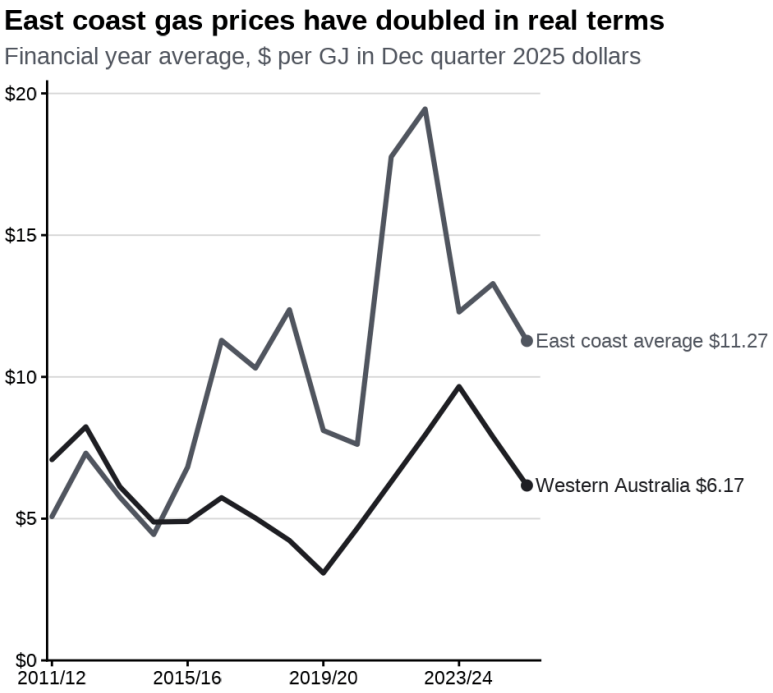
This report marks the third time Rewiring Australia has run this kind of analysis since 2021. The story remains the same: rooftop solar, batteries and electric technologies (sometimes termed ‘electrotech’) keep getting cheaper and result in significant bill savings. The cost of installing solar falls in real terms while gas prices continue to rise. On the east coast, real gas prices have doubled over 15 years. In WA, price rises are moderated by the local gas reserve, but are not immune to international shocks.

Figure 8



As the economic case strengthens every year, more and more Australians invest in solar and electric upgrades. These investments are anti-inflationary: they lock the household into low electricity prices from this solar generation for decades.

Figure 9



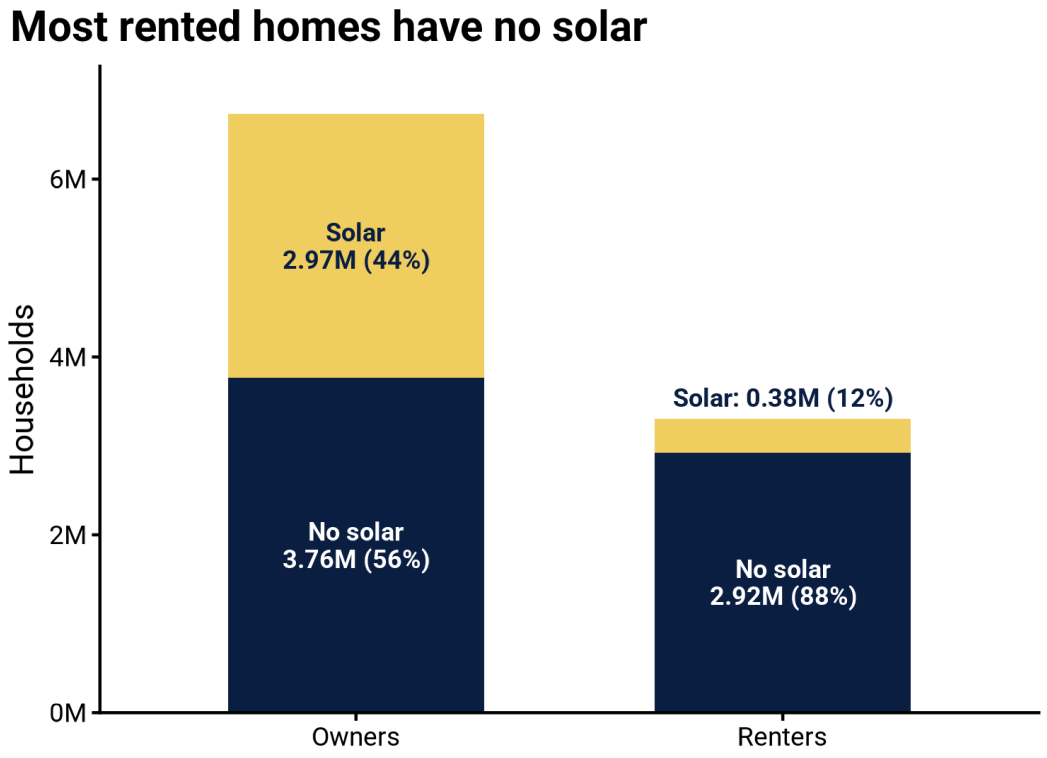
As the technology continues improving and costs keep falling, the prospect of a better version or cheaper price next year can cause some to hold off in the hope of better value, or to avoid buying a version which is quickly superseded. In reality, the subsidies for solar and batteries are designed to fall as the prices come down, meaning that the real cost of solar and batteries is unlikely to drop dramatically. Figure 8 shows that the real price of rooftop solar in Australia has barely fallen since 2022. In practice, the financial benefit of installing solar or upgrading your appliance to electric outweighs the short term technological improvements. Our analysis suggests that waiting one year to install 10 kW of rooftop solar, means that you actually lose around $300 on missed savings, more if your home is already electrified.

“What are we waiting for? By waiting one year to install rooftop solar, you lose $300.”

Renters are falling behind

Just 12% of Australia's 3 million rented properties are reported to have rooftop solar, compared to 44% of owner-occupied homes. This is due to the well-documented 'split incentive': landlords have the power to install solar and upgrade appliances, but little incentive, as the bill savings accrue to the residents. As a result, renters face higher energy bills than homeowners and have far fewer options to reduce their energy usage through upgrading to more efficient appliances. Rented properties now make up nearly half (44%) of all occupied homes without solar. Ensuring access to the benefits of renewable energy and electrification for renters is now the largest part of the challenge.

Figure 10



Source: Rewiring Australia analysis of data from ECA Consumer Energy Report Card (Dec 2025) and ABS occupied homes. n = 3,025 owners, 1,447 renters.

The advent of plug-in solar and batteries is good news for renters. These systems consist of two normal solar panels and, optionally, a battery which all connect into an ordinary power outlet. You can hang the panels off your balcony, plug it in, and this outlet becomes an inlet to power your house. A 1 kW plug-in solar system could save a household $200-$300 a year, with a battery these savings could be up to $600 a year, not including an EV. When you move, you simply unplug it and take it with you.

$200–$300

a year saved with a 1 kW plug-in solar system

Up to $600

a year saved when you add a plug-in battery

These systems are currently illegal in Australia but are legal in Germany where millions of homes have already plugged one in. Plug-in solar is now legal in the UK and many US states. In September 2026, the Australian state and federal energy ministers agreed to legalise plug-in solar and storage. Some work is needed to align safety standards, develop a consistent process for notifying the electricity network, and empower strata residents and renters to plug these in, but there is no reason why these systems could not be on sale in Australia by July 2027.

For electrification, renters remain unable to upgrade gas appliances to efficient electric alternatives. Bringing about change so that renters have comfortable, affordable housing will require both carrots and sticks. Regulation is needed to mandate minimum energy performance standards. A number of states have begun this process but there is more work to do to ensure that the system is both well-understood by landlords and renters and works effectively. Finance and tax write-offs can also incentivise voluntary action from property owners, either in advance of mandatory standards or to go beyond the minimum requirements.



CASE STUDY · RENTER

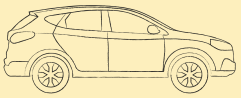
Robin

With his landlord's permission, Robin has installed two portable solar panels on the roof to power his kitchen appliances during the day and charge two lithium batteries that supply power after sunset.

He cooks on a portable induction cooktop, has accessed a free hot water heat pump through a government scheme, and can control his LED lighting from his phone. He also drives an electric vehicle. He's now helping Rewiring Australia advocate for renters' rights to access the benefits of electrification.

2

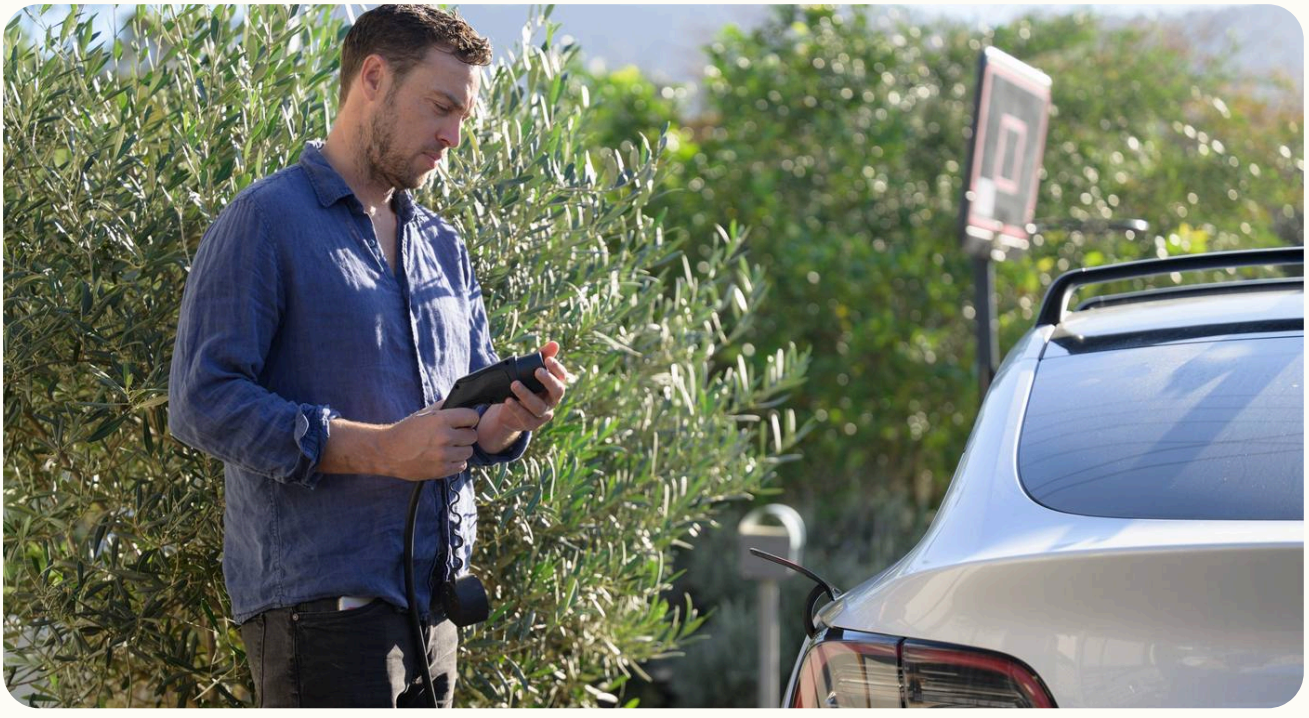
CHAPTER TWO



The EV revolution

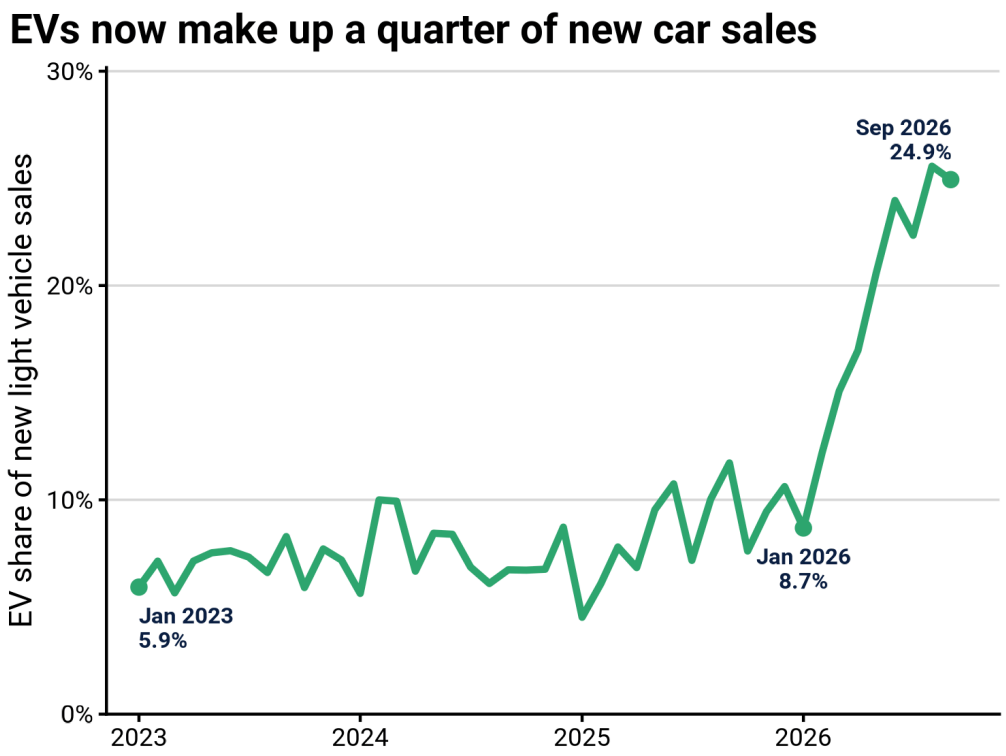
Australian cities remain among the most car-dependent in the world: many people are obliged to own and use a car to get to work and do the shopping. Our freight transport is also extremely road-dependent and Australia is a big place. As a result, we consume around 2,200 litres of oil *per person* each year, among the highest in the world outside of major oil producers, including more diesel per capita than any other country. As a major oil importer, Australia stands to gain enormously from the adoption of EVs both financially and in energy security terms.

Australian households alone spend more than $24 billion on petrol and diesel every year. When you include business and industry, Australia paid more than $35 billion for petrol and diesel imports. This money disappears offshore and is a huge drain on our economy. At the same time, we generate more than 10,000 GWh of excess electricity from our rooftops every year, which currently just runs out into the grid, enough to run more than 4 million EVs.



Australia has led the world on solar and batteries are taking off, but we are behind on EVs. We have the electric fuel, we just need the vehicles. As fuel prices have rocketed in 2026, Australians have taken up EVs faster than ever - one in four new cars sold in August and September was electric.

Figure 11



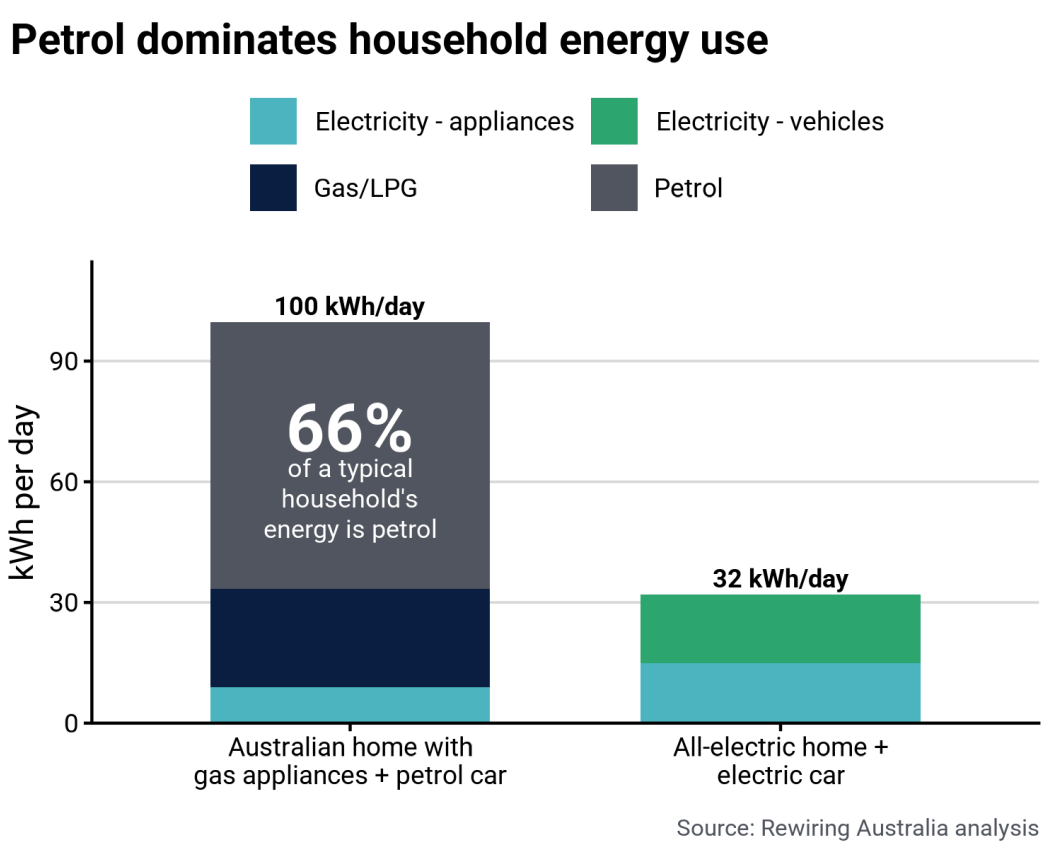
Source: FCAI VFACTS and EV Council, via EVDB Australia

The accelerated uptake of EVs is good news, but to cut the cost of living and meet climate targets we need to rapidly stop adding new petrol and diesel cars to our roads. This chapter explores why Australia is ready for an EV revolution and how to make the transport electrification go faster.

How efficient is going electric?

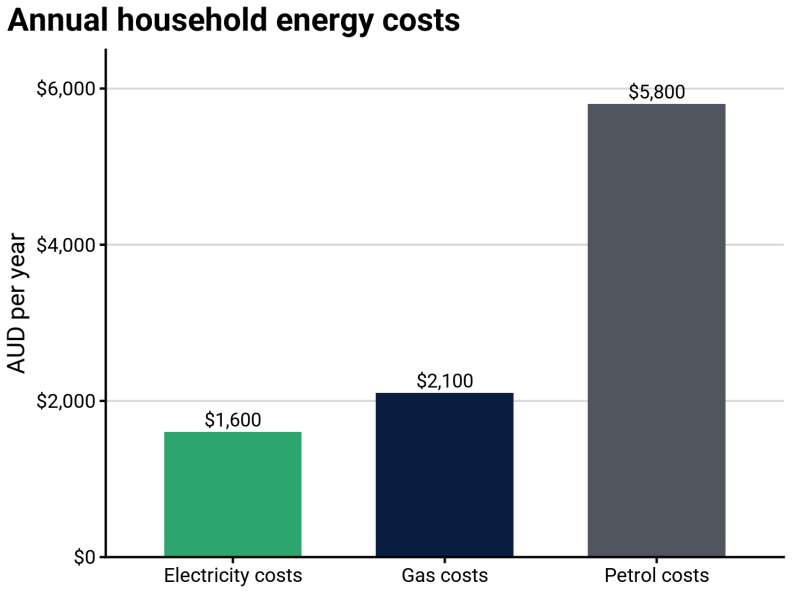
Our cars use more energy than everything we do at home put together. The shift to EVs is a huge opportunity to save energy: for the average household, electrifying your car alone will halve your home's energy use. Electrifying all of Australia's passenger cars will save 149 TWh a year, a more than 75% cut and more energy than the annual electricity consumption of the Netherlands. The EVs which replace them will need just 40 TWh each year, less than half the electricity already generated by Australian renewables.

Figure 12



Transport is by far the biggest slice of household energy spending in Australia. With petrol at $1.80/L, the average Australian household spends $5,800 every year on petrol. By upgrading to EVs, the same average household could save more than $2,600 each year.

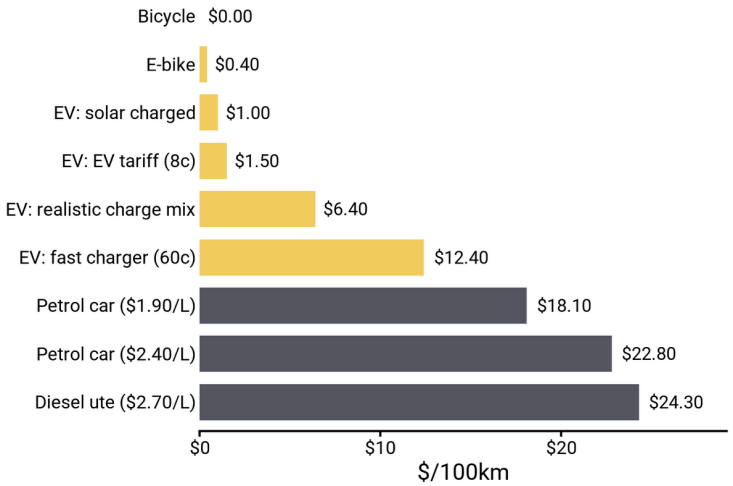
Figure 13



Source: Rewiring Australia analysis

Running on petrol costs many times more than electricity. An EV charged from your rooftop solar can drive 100km for just $1, compared to spending more than $18 for the same journey on petrol. Even without solar, most EV owners are now on an EV electricity tariff meaning that they can do that 100km drive for just $1.50.

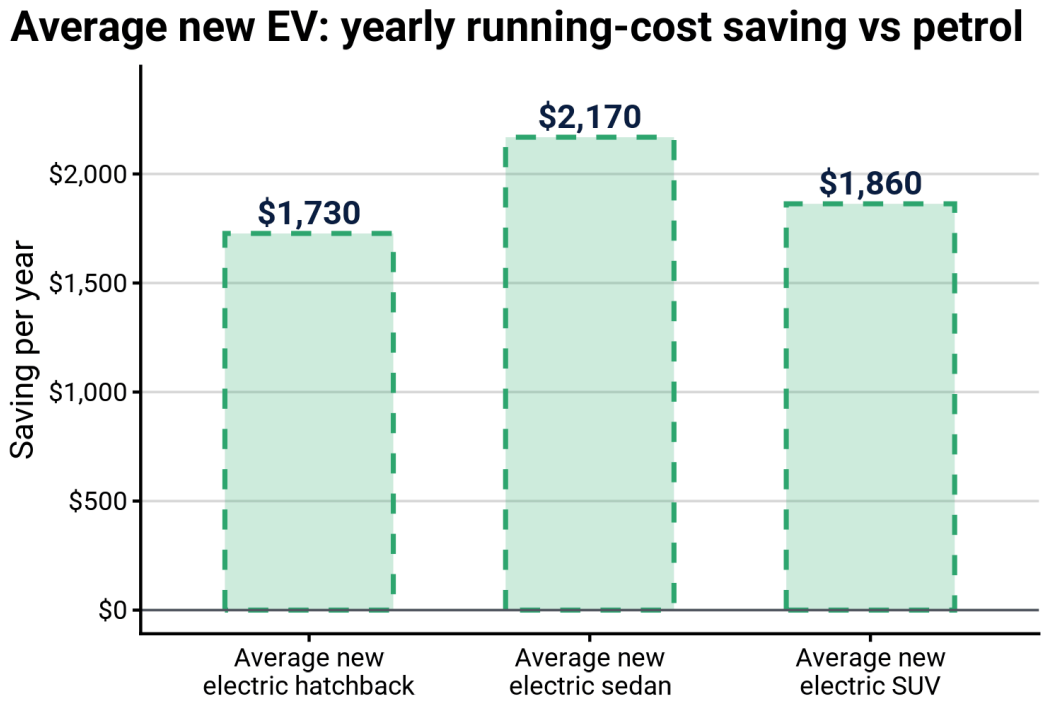
Figure 14



Source: Rewiring Australia analysis. Realistic mix: 20% solar, 15% fast, 65% home charging

The running costs of an EV save around $2,000 a year across different vehicle types. This variation is due to the efficiency of the different petrol and electric models. In this modelling, we have assumed that the EVs are charged mostly (85%) at home using a time-of-use tariff with the remainder on public fast charging. We have also compared like with like, such as an electric sedan with a petrol sedan.

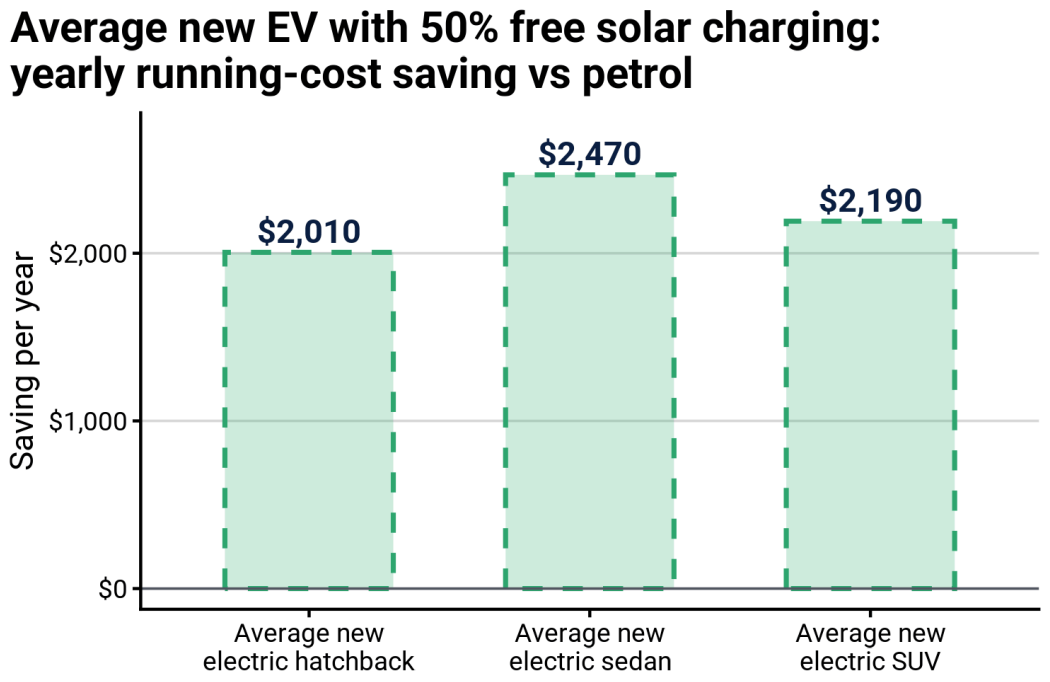
Figure 15



Average yearly running-cost savings over 15 years vs a new petrol car of the same class.
Energy and maintenance only; excludes purchase price. Average Australian driving (36.4 km/day).
Charging: 85% at home on a time-of-use plan, 15% public fast charging; no solar.
Source: Rewiring Australia analysis

In reality, EV owners could use rooftop solar, an EV tariff, or a ‘Solar Sharer’ plan with free midday power to charge more cheaply. If 50% of the home charging was done for free (from solar or with free midday power), the savings increase by around $300 a year. The increase is worth it, but small, as most of the savings come from the initial switch to electricity - electricity is just so much cheaper than petrol, however you get it.

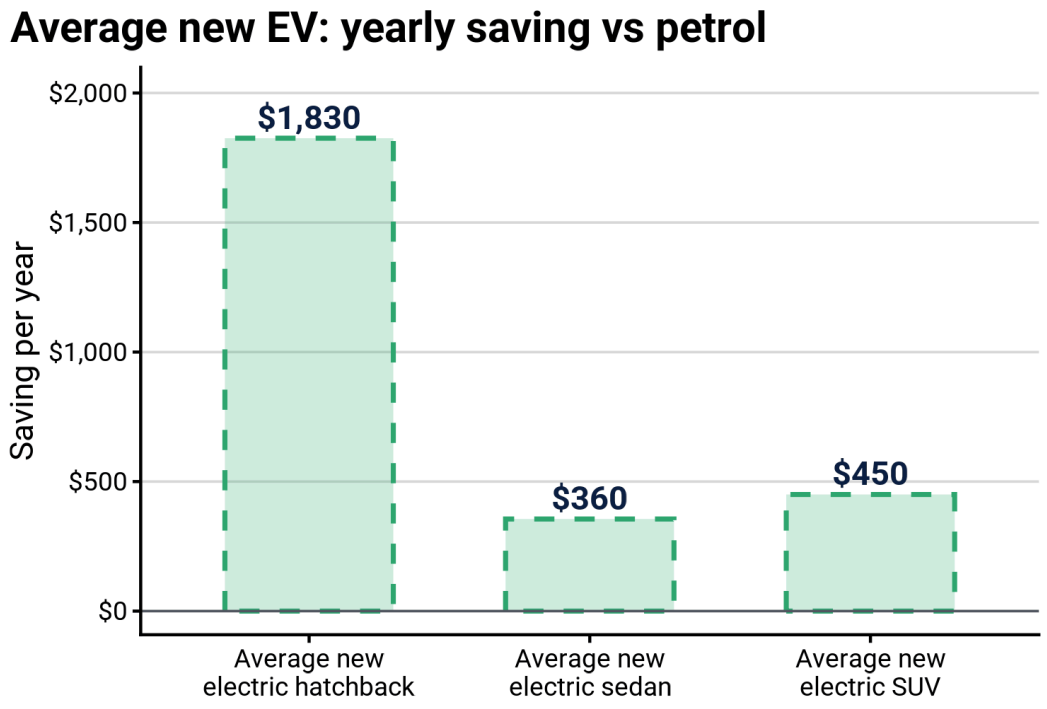
Figure 16



Average yearly running-cost savings over 15 years vs a new petrol car of the same class. Energy and maintenance only; excludes purchase price and solar panel cost. Average Australian driving (36.4 km/day). Charging: 15% public fast charging; of the 85% at home, 50% is free charging from rooftop solar ($0/kWh) and 50% is time-of-use grid. No battery.
Source: Rewiring Australia analysis

When you add in the upfront cost of buying the car, it is still significantly cheaper to buy and run an EV than an average new petrol car. However, the savings depend on the price of the car. Specifically, they depend on the difference in price between the EV and the alternative petrol car - where the EV costs significantly more than the petrol version the overall savings are lower. Some small EVs, like BYD's Atto 1 and Dolphin, have recently reached the same price as equivalent petrol models, meaning that for these models you save money from the moment you start driving. We modelled the savings for hatchbacks, sedans and SUVs to explore the differences - in general, the SUVs were around $13,000 more than their petrol counterparts, sedans were $17,000 more, whilst the hatchbacks were pretty much the same price. Electric sedans and SUVs are still cheaper to own, but the savings are lower than for hatchbacks due to their higher upfront cost.

Figure 17



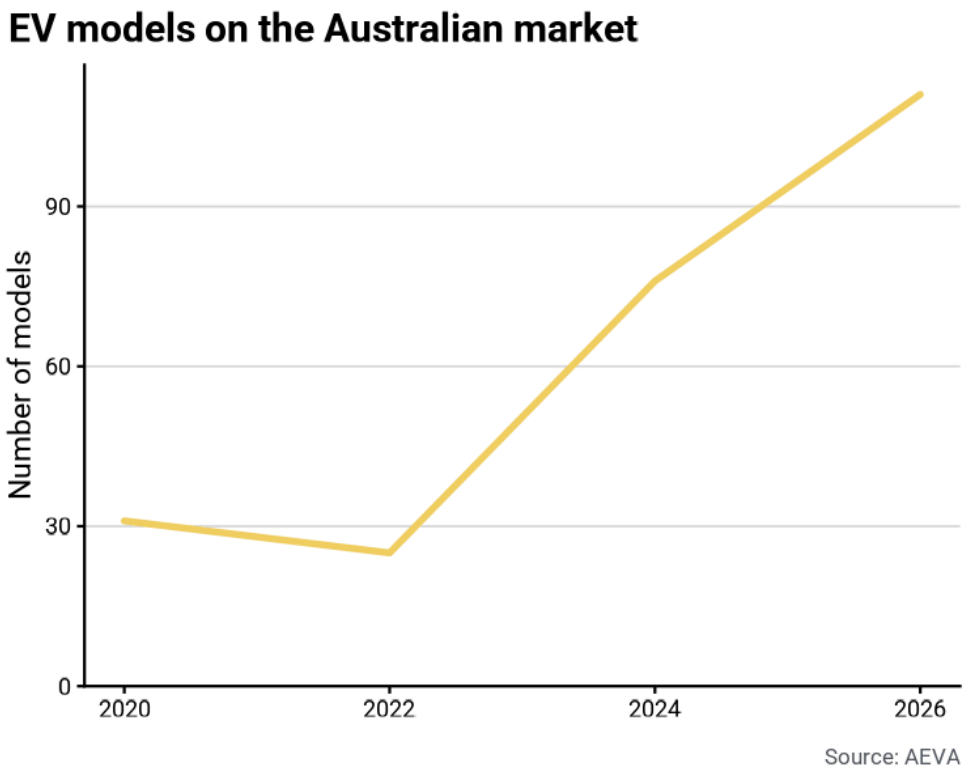
Annualised 15-year savings vs a new petrol car of the same class. Includes loan-financed purchase price (6%, 15 yrs), energy and maintenance. Average Australian driving (36.4 km/day). Charging: 85% at home on a time-of-use plan, 15% public fast charging; no solar.
Source: Rewiring Australia analysis

The time has come for electric transport

Electric transport is cleaner and cheaper than fossil fuels and runs on solar power we make at home rather than imported petrol, enhancing national energy security. The beginning of 2026 marked a critical turning point as electric cars entered the Australian mainstream: policy direction from the New Vehicle Emissions Standard and EV tax discounts had pushed an increased range of EVs into the market. Then the spike in fuel prices resulting from the conflict in the Middle East encouraged cost-conscious consumers to consider EVs. The national conversation about electric cars was no longer about range anxiety; it was about how many people were buying one, how hard it was becoming to get one and the savings people could make. This shift in narrative focus took desirability as a given rather than stoking fear and range anxiety.

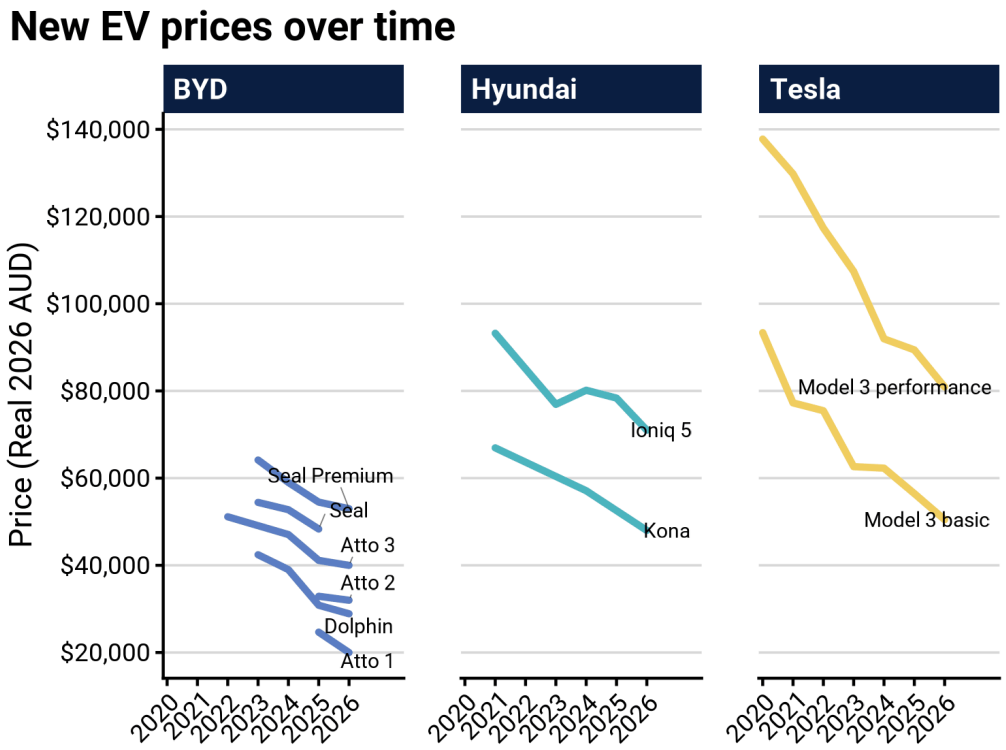
2025 saw more than 30 new models of electric car introduced to the Australian market, and more than 20 more are slated to arrive in 2026. More than 120 different models of electric car are now available in Australia. This breadth of choice is helping EVs to appeal to a wider section of Australians.

Figure 18



At the same time, the entry of low-cost Chinese models into the Australian car market in recent years has triggered an EV price war. The falling costs of new models means they are available to more people. EV prices are falling in nominal dollars, which means that in real terms they are tumbling even faster. Research shows that affordability concerns are reducing as a result: just under half of people reported concerns about affordability in 2026, compared to more than three quarters in 2023.

Figure 19



Source: Rewiring Australia analysis. Data from Web Archive.

Sticker price parity

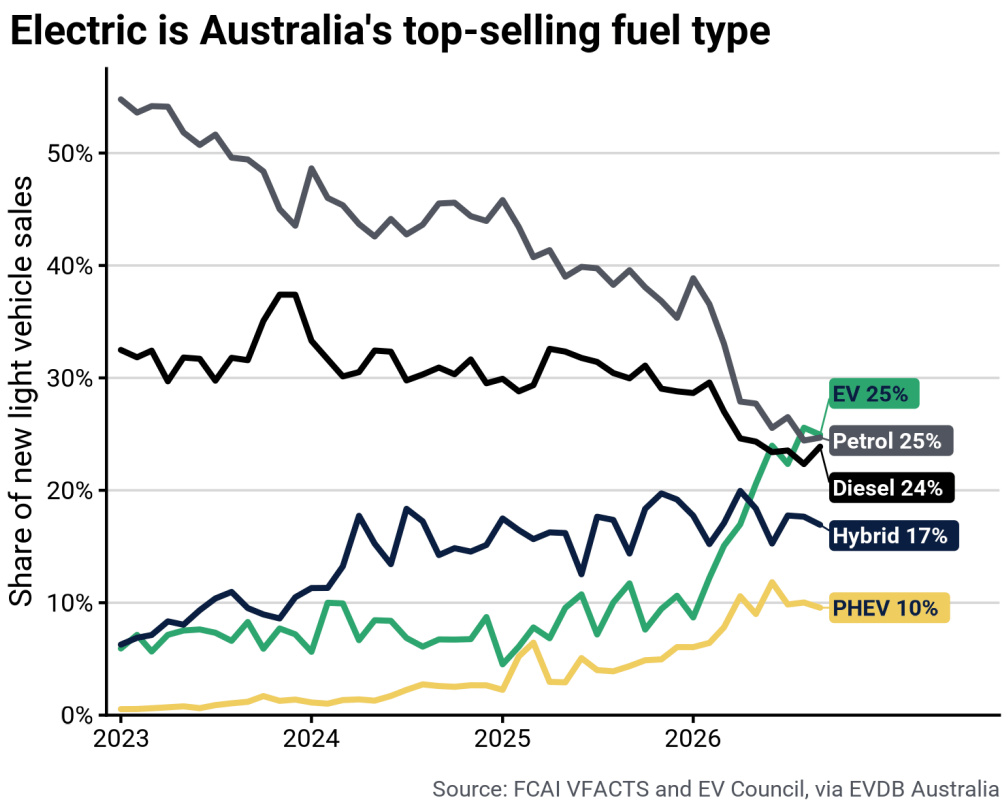
The cost of the battery is the single largest determiner of the price of an EV, contributing 30-40% of the cost. As the cost of batteries has fallen rapidly, EVs have become cheaper every year. We compared 13 models from Tesla, BYD, MG, Hyundai, and BMW and found an average $4,000 annual drop in real prices since 2020 (around 6%).

The introduction of BYD's Atto 1 and Dolphin to Australia in 2026 crossed a new frontier for electric car affordability: sticker price parity. Small electric cars now cost the same, or less, than petrol cars. This milestone opens up EVs to a wider range of consumers, which is already contributing to the explosion in EV demand. Now, you can save money instantly when you buy a small EV instead of a petrol car, and then continue to save more money on running costs. Our modelling shows around $2,000 a year in savings for small electric hatchbacks: once the car is the same price, you are just paying a fraction of the fuel cost and lower maintenance.

Whilst Australia has been slower to take up EVs than many other countries, there are signs that the pace of change is ramping up. Falling prices and growing interest from Australian households means that EVs make up an ever larger share of car sales.

So far in 2026, one in every five cars sold in Australia was an EV. The accelerating downward trend in the market share of ICE vehicle sales is now unmistakable: petrol and diesel vehicles have rapidly lost market share to EVs. In August and September 2026, more EVs were sold than cars of any other fuel type. At 10% of sales, plug-in hybrids (PHEVs) are also more popular than before.

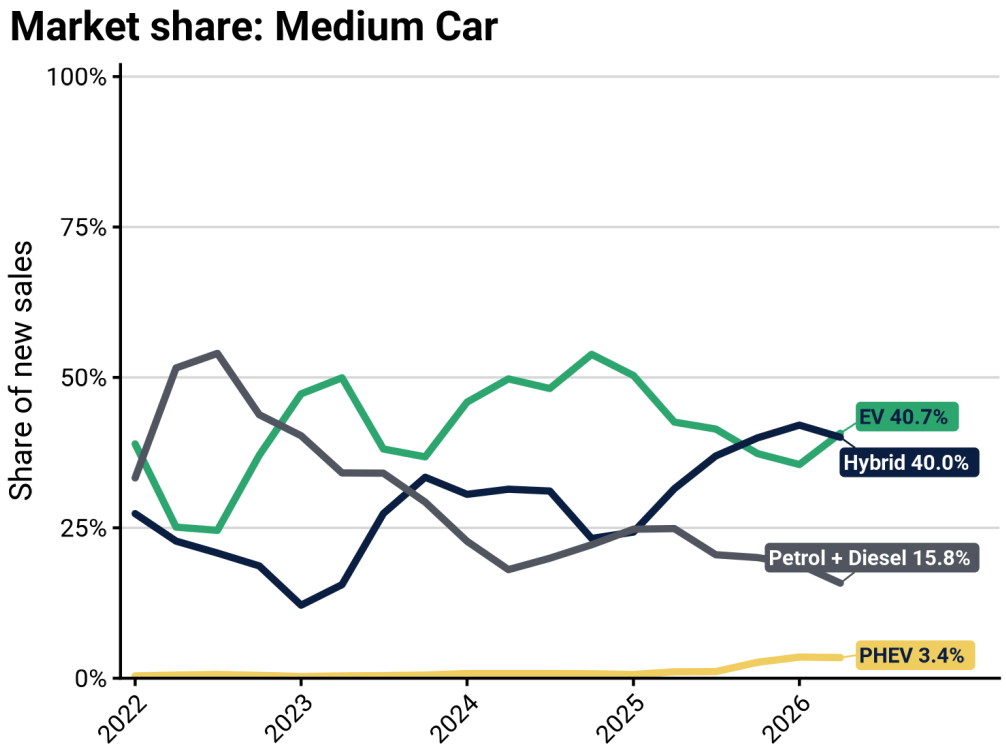
Figure 20



Source: FCAI VFACTS and EV Council, via EVDB Australia

However, hidden in these overall numbers are segments where EVs have been the first choice car for a while. ‘Medium car’ sales have been led by EVs for a while as the Tesla Model 3 and the BYD Seal have dominated this segment of the market. Together, petrol and diesel vehicles now make up just a sixth of this market segment.

Figure 21

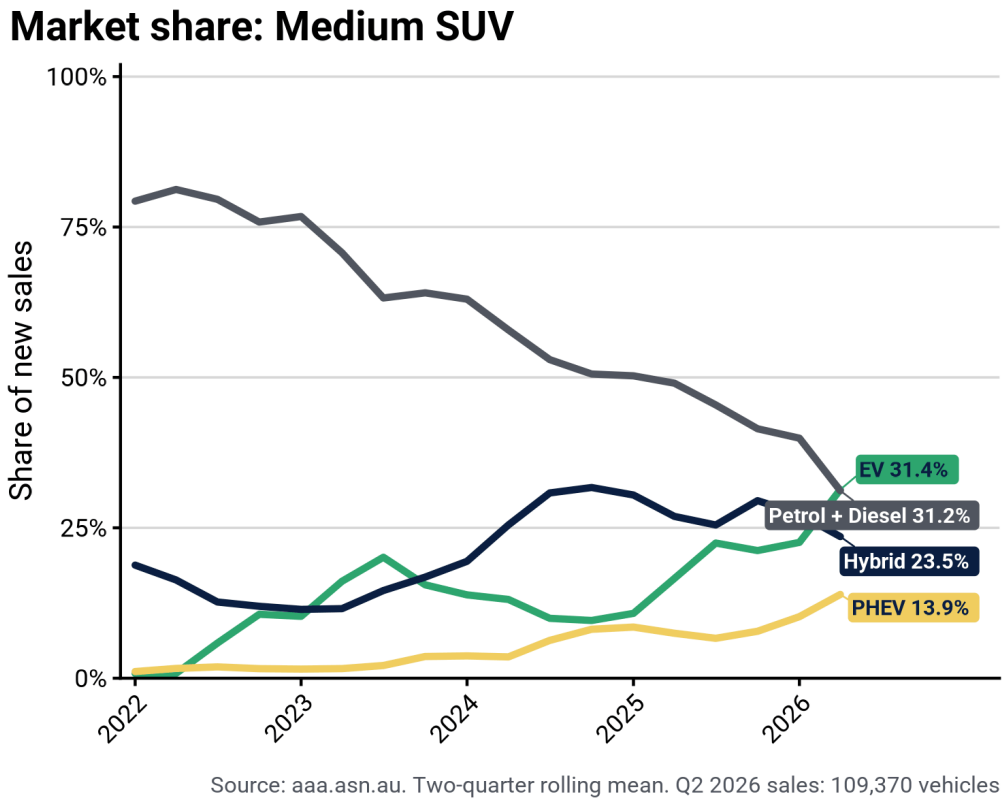


Source: aaa.asn.au. Two-quarter rolling mean. Q2 2026 sales: 9,135 vehicles

In terms of market scale, more impactful are the recent strong sales of electric 'medium SUVs' which have crossed 30% of total sales: more than petrol and diesel sales *combined*. With more than 300,000 new 'medium SUVs' added to Australia's roads in 2025, this is the largest segment of the market. Petrol 'medium SUVs' are rapidly losing out to popular EV models like the Tesla Y and the BYD Sealion 7 and Atto 3. This signals a deep change in the car market as medium SUVs make up around a third of the total light vehicle market.



Figure 22



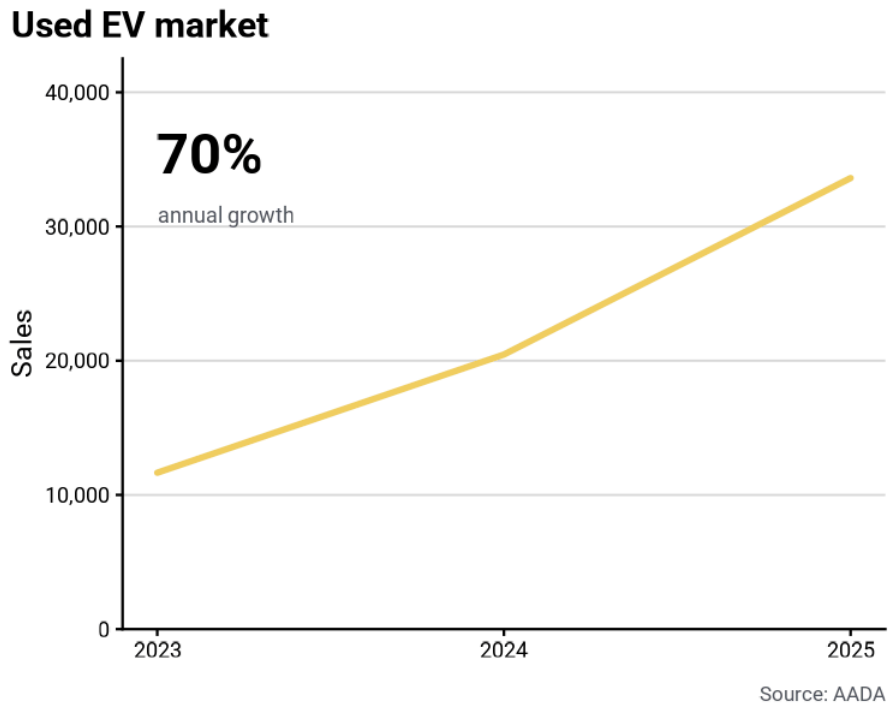
Source: aaa.asn.au. Two-quarter rolling mean. Q2 2026 sales: 109,370 vehicles

And following the recent introduction of smaller BYD models (the Atto 1 and Dolphin) to Australia EVs more than doubled their share of the small car market jumping from less than 7% Q4 2025 to more than 20% in Q2 2026. Affordability appears to have unlocked significant latent demand for EVs in this segment.

Used EVs

More than two thirds of car purchases in Australia are used cars, but the second-hand EV market relies on the turnover of an existing fleet. So far that fleet has been small, but as more new EVs roll onto Australia's roads, the used EV market is slowly gathering momentum. In 2025 more than 33,000 used EVs changed hands and the market has grown an average of 70% a year since 2023.

Figure 23



Used cars are generally significantly more affordable than new ones, so this growing market is good news for those unwilling or unable to buy new. Whilst 2025 models retain 75-90% of their value when resold, 2021 models are now selling for around half their original price. This suggests that used EVs hold their value comparably to petrol cars but will still provide a valuable source of affordable EVs.

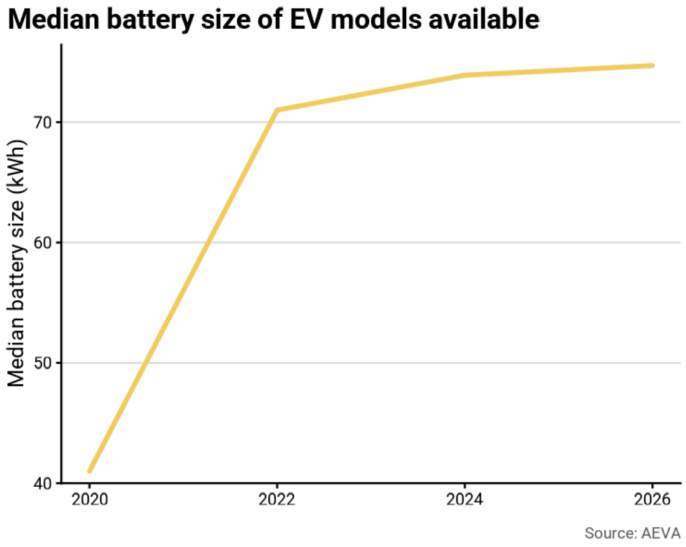
Attitudes towards EVs are changing

Every year more people are considering an EV as their next car and surveys find that concerns are reducing as the technology and public understanding improves.

The most prominent barriers people cite are around upfront price and limits to charging infrastructure. The proportion of people concerned by both of these are falling, likely due to EV prices coming down and the rollout of more fast chargers.

Battery capacity has improved dramatically over just a few years, helping to reduce concerns about EV range. Since 2020 the median EV battery capacity has risen by 80% from around 40kWh to more than 70kWh.

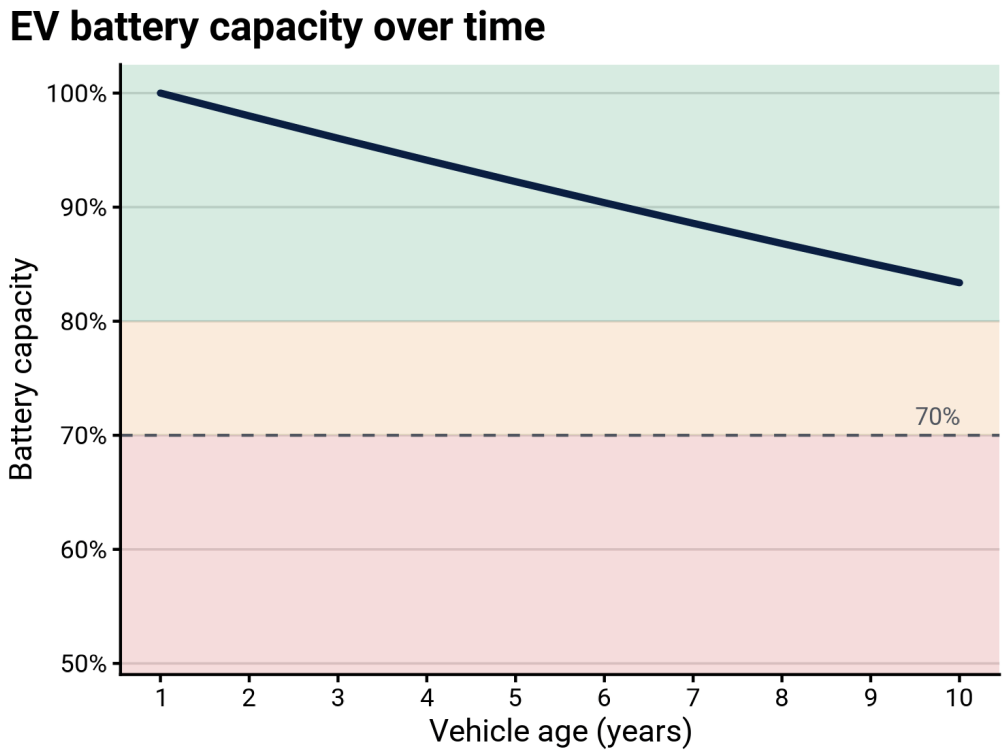
Figure 24



Even more importantly, batteries are lasting much longer than was anticipated just a few years ago. Given Tesla's early market dominance, their vehicles provide some of the best evidence of well-used EVs. Tesla has long claimed the batteries in their EVs will degrade only slowly as the odometer rises. Specifically, they claim that testing shows that after more than 200,000km of driving, their EV batteries will hold at least 80% of their capacity.

So far, the evidence appears to be bearing that out. Recent large-scale studies of EVs by have found that EV batteries degrade around 2% per year, meaning that a 10-year old vehicle will retain more than 80% of its original battery capacity on average. In practical kilometre terms, that means that an EV with a 500km range will lose around 9km of range each year; after 10 years, its range may be around 420km.

Figure 25



Source: GEOTAB (2026).

Vehicle-to-grid

When parked at home, EVs have the capability to discharge energy to run the house or support the grid. EV batteries are between three and six times larger than the average household battery - holding enough energy to run a home for up to three days in many cases. Whilst they can't serve the house and grid all the time as they are also used for transport (they have been described as 'batteries with somewhere to be'), vehicles spend more than 90% of their time parked on average. Many could be plugged in for much of that time to run the house or support the local network and earn money. Vehicle-to-grid is now being trialled at scale in Australia and around the world - Amber's large trial involves 1,000 Australian homes.

Hardware testing with a range of EVs has shown that many are technically capable of discharging, even if vehicle-to-grid is not listed as a feature by the manufacturer. For now, the limiting factor is that doing so risks voiding your car's warranty, which many people would rather avoid. For now, when you buy an EV it is unlikely to be listed as able to deliver vehicle-to-grid. But in many cases the vehicle will be technically capable and so it will be a case of waiting for the manufacturer to update their warranty terms, though this may come with compatibility requirements. It is worth noting that vehicle-to-grid chargers are different hardware from most home chargers you can buy now. Once widely available, the ability to run your house or serve your grid will further improve the household savings from going electric. It may also provide a low-cost resource to local electricity grids for voltage management or other grid services.

The end of petrol and diesel

Together, petrol and diesel remain the largest contributor to household energy costs and emissions. EVs are a readily available and economic solution to both. Australia is ready to adopt EVs at scale and is beginning to do so rapidly. However, the current rate of adoption remains too slow. Australia is expected to put 200,000 EVs on the road in 2026. At this rate, replacing the 19 million light vehicle fleet would take 95 years. Even if all 1.2 million new cars sold each year were EVs from 2027, replacing the entire fleet would take 16 years - that's 2043.

95 years to replace Australia's 19 million light vehicles at the 2026 rate of 200,000 new EVs a year

In order to rapidly reduce our reliance on petrol and diesel and electrify everything for everyone, the federal government should both continue to facilitate EVs, whilst all governments should help people in cities to be less dependent on a car.

The federal government reforms to the EV discount this year to restrict the exemption to EVs worth less than $75,000 made the policy sustainable, and reflect falling vehicle prices. The New Vehicle Emissions Standard has helped encourage more brands to bring EV models to Australia. But the current standard only runs to 2029 and must be tightened to drive faster reduction in the sales of new petrol and diesel vehicles. This work must begin in 2026 to give notice to industry ahead of 2029. The objective must be to reach 100% EV sales for light vehicles in the early 2030s - otherwise petrol vehicles will be on our roads well after 2050. Finally, the charging network needs bolstering and broadening, especially in regional Australia, to give drivers confidence and to make longer trips easier in EVs.

State governments, supported by the Commonwealth, play an important role in shaping transport around and between our cities. Not everyone can afford to buy a new car, but many are dependent on petrol to get to work, school or see friends and family. Investing in public transport means that people can travel in electric buses and trains instead of petrol cars. Building safe active transport infrastructure means that more people can get around on e-bikes, analogue bikes and other ways that are affordable, clean, and healthy. For 10 years, the United Nations has recommended that 20% of transport budgets are allocated to active transport. The Federal Government spends just 0.1% on active transport - 90c out of the $714 person spent on roads each year. Greater investment is needed in both far-reaching, regular, electric public transport networks and safe, connective active transport infrastructure.

The objective must be to reach 100% EV sales for light vehicles in the early 2030s.

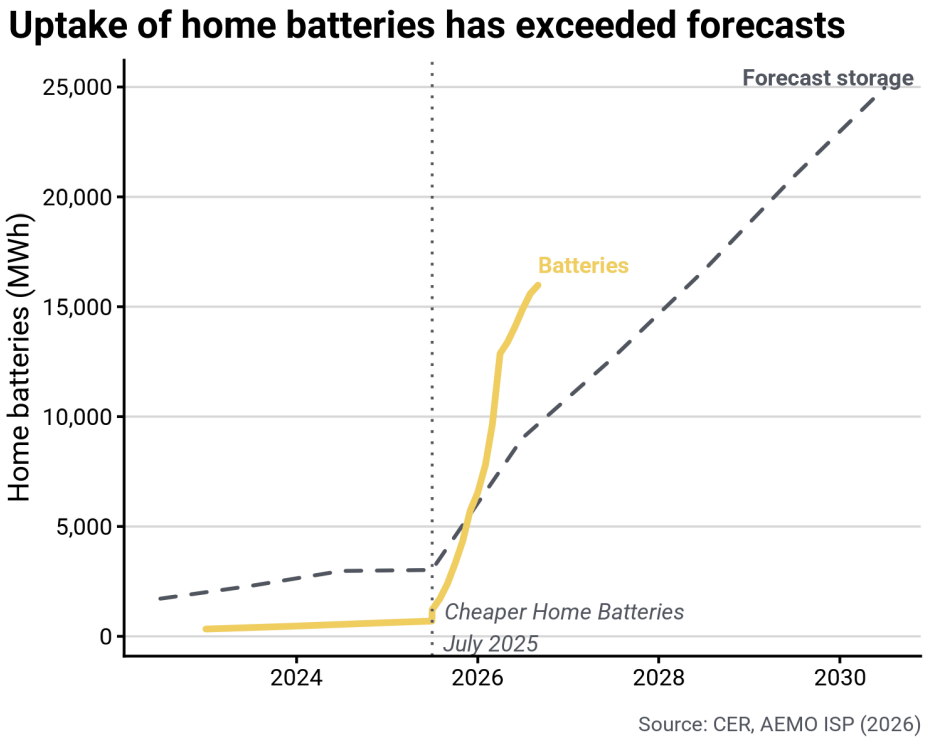
3

CHAPTER THREE

The year of the home battery

Home batteries enable us to cheaply and efficiently store solar energy to use later in the day. The Federal government's Cheaper Home Batteries program has mobilised a rapid rollout of batteries into more than 500,000 homes since July 2025. As a result, Australian households' enthusiasm for home batteries has surpassed the market operator's forecasts: we already have more home battery capacity than was forecast for 2028.

Figure 26



At a cost to the Government of around $308/kWh, the program has delivered more than 15 GWh of energy storage. Collectively, these batteries can deliver more power than the largest power stations in the country, and they deliver that power directly where it's needed: into our homes and local electricity networks. There has been no need to build extra poles and wires; in fact, these batteries may reduce the need to spend money on more poles and wires.

15 GWh+

of home energy storage delivered by the Cheaper Home Batteries program

$308/kWh

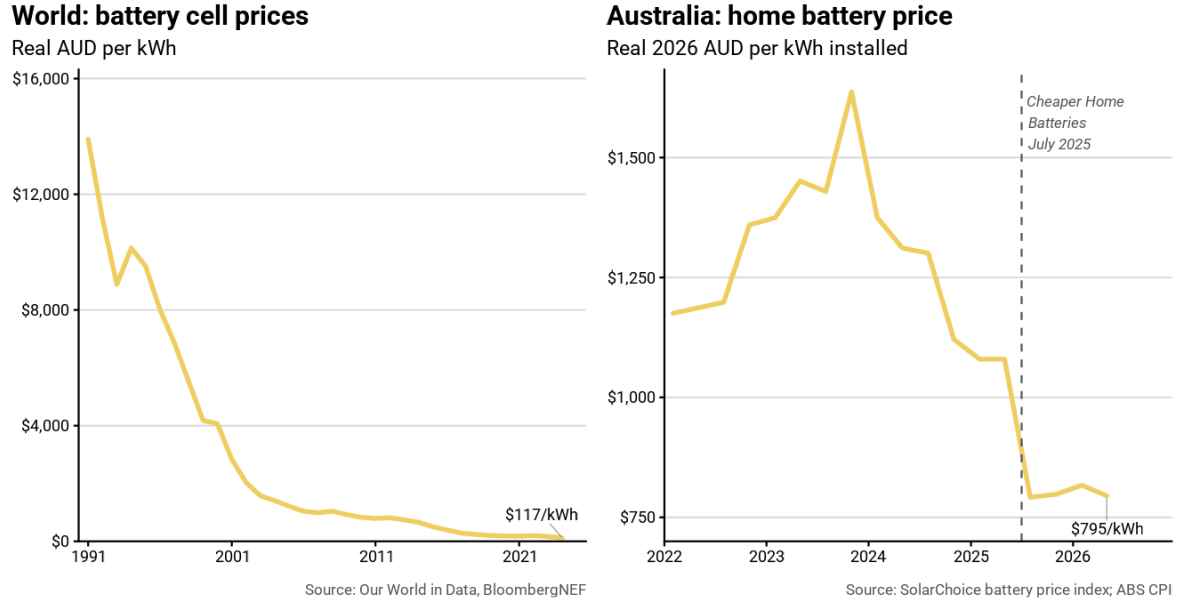
approximate cost to the Government

Falling battery prices

Globally, the cost of battery cells has fallen 99% since 1991, recently pushed along by the scale of EV manufacturing. This, along with the Cheaper Home Batteries program, has carried through into the tumbling price of home batteries here in Australia.

Figure 27

Battery prices over time



Virtual Power Plants

Batteries are changing our energy system dramatically: Their ability to store cheap solar power for use in the evenings is making the whole system cheaper. As a householder, installing a battery is good for you as you can store your solar power for use in the evening. More broadly, the more cheap solar we can store for the evening the less expensive gas we need to use for electricity. Also, by soaking up solar as it is generated and then discharging it later, energy stays local, reducing the need to build and reinforce our poles and wires. This reduces the cost of electricity for everyone, even those without solar or a battery.

Therefore, exporting energy from your large home battery to the grid in the evening through either a wholesale tariff (like Amber) or a 'Virtual Power Plant' (VPP) is valuable for reducing costs for everyone and making the most of your investment. AEMO's future forecasts assume that half (53%) of all home batteries and EVs (once vehicle-to-grid is mainstream) will join a VPP. However, at present 70-95% of those with a home battery are not signing up for these tariffs.

Uptake is hindered by a lack of understanding of how VPPs work, and low trust in the operators. A survey carried out by Rewiring Australia in May 2026 (n=597) found that one in three (33%) did not trust VPP operators and more than one in five (22.5%) did not understand them. In particular, the loss of control is a salient feature of joining a VPP which appears to be limiting participation.

33%

of battery owners surveyed did not trust VPP operators

22.5%

did not understand VPPs

We conclude that VPPs are not the whole solution: to unlock the power of home batteries to deliver flexibility to the grid, we need to offer households opportunities to flex their battery *without* giving away control. This will involve battery flexibility offers for households which do not require third party battery control - like evening export tariffs. While those still offering a VPP and asking for control need to build trust with households. You can read more about the survey and how we propose to unlock the flexibility in home batteries in our report.

4

CHAPTER FOUR



Policy responses: how we electrify faster and fairer

Even faster electrification

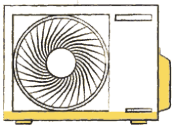
Australians are installing solar and batteries rapidly and the adoption of EVs is quickly accelerating. However, many households continue to install new gas appliances. The result is homes with higher energy bills and emissions. Electrifying our homes is both feasible and economic; it should be the first priority to make a rapid dent in our energy costs and emissions. It is also clear that once electrification picks up speed, it is popular and can proceed faster than expected: since the beginning of 2025 in the ACT, the most stridently pro-electric jurisdiction in the country so far, the rate of disconnections from the gas network has exceeded the utility's previous projections.

In order to cut the cost of living and deliver Australia's legislated emissions reductions, we need to replace all residential gas appliances by 2040, with the rate of upgrades accelerating from now into the mid-2030s. To achieve this across the country means upgrading more than 6,000 hot water systems, 3,500 gas heaters and 6,000 cooktops *every week* on average for fourteen years. As well as replacing 23,000 vehicles every week with either an EV or another means of transport. This is an enormous task and demands a rapid acceleration in the rate of gas replacements. For hot water, for example, we need to go *ten times faster* than the current rate of around 700 a week.

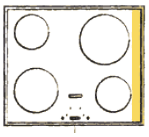
To replace all residential gas appliances by 2040, every week we need to upgrade:



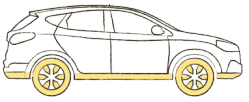
6,000
hot water systems



3,500
gas heaters



6,000
cooktops



23,000
vehicles, to an EV or another means of transport

National alignment and coordination

Accelerating the electrification of Australia's homes requires strategic alignment between government and industry. Industry needs clarity and certainty to invest in its workforce and supply chain. Together, federal and state governments can provide market certainty for these businesses through policy direction and regulation.

Federal and state energy ministers should coordinate the development and publication of a national roadmap for electrification. This needs to include:

- guidance and a timeline for residential appliance electrification,
- the end-date when new gas appliances will no longer be installed,
- a workforce development plan, and
- a framework for the strategic decommissioning of Australia's residential gas networks.

Aligned with this national roadmap, the state and territory governments need to develop their own implementation plans to reduce residential (and commercial) dependence on gas and prepare to dismantle the network (similar to the policy already established in Victoria and the ACT). These plans must include skills and workforce development to build our capacity to deliver this national transformation.

Flexible finance

The savings from upgrading to electric are by now well-established and confirmed here in this report. While the costs of efficient electric appliances and vehicles continue to fall. However, the upfront costs remain the primary reported barrier to electrification. In our modelling, we assume that appliance upgrades are purchased using finance and include the interest in our forecast costs and savings. Rewiring Australia has argued before that households can save money by swapping fuels for finance; it remains the case that, in principle, access to finance can enable households to reduce their costs by zeroing their energy bills and repaying the finance instead, with no upfront cost. However, not all households can access finance in a timely or easy fashion, or indeed at all.

These groups may include low-income homeowners, apartment owners, first-home owners, young families, retirees, renters, landlords, self-employed/non-standard income (e.g. tradies), or households at a trigger moment (e.g. broken hot water).

Government can help to address this upfront cost barrier in a number of ways. The ACT's Sustainable Household Scheme and the NSW government's Home Energy Saver loan scheme exemplify one successful approach. Both schemes combine low- or no-interest loans, worth up to $15,000, with cash grants for low-income households.

Support for apartments and renters

Australians living in apartments and renting are falling behind on solar and electrification: just 11% of renters and 6% of apartments are estimated to have rooftop solar, compared to around 40% of freestanding homes. Renters and apartment residents are unable to simply decide to put solar on their roof because they do not own the roof, it belongs to the landlord or is common property.

The systemic barriers these households face require targeted solutions. For renters, minimum energy performance standards for rental properties can drive electrification and make homes cheaper to live in. Support for landlords to make these upgrades could be provided through finance to cushion the upfront cost. Rewiring Australia has advocated for a novel form of finance where the loan is secured against the property and is repayable when it sells. A model such as this could be well-suited to this application: whilst the upgrades are mandated, there is no immediate cost to the landlord, this cost is deferred to the future sale of the property. Disclosure of a home's performance can provide prospective tenants with information about their likely future bills.

For those in apartments, a power of work is required to scope the solar or electrification possibilities, before engaging with owners to build support for upgrades. Some states have legislated to reduce the barriers to sustainability upgrades as noted above in Box 1. Tailored finance for owners corporations or for strata owners to cover special levies could help more apartment households to electrify and add solar.



Appendix: methods

The home energy savings reported above were modelled in R. The code for the model and input data can be found on Rewiring Australia's GitHub.

How we calculated these results

Our model estimates how much a typical Australian household could save by replacing gas, LPG and petrol with efficient electric appliances and vehicles. It also shows what adding rooftop solar and a home battery could add.

Our approach

We compare two versions of the same home. One runs on gas and petrol, as many Australian homes do today. The other is fully electric. Both homes have the same number of people, live in the same state and use energy for the same things:

- Heating and cooling
- Hot water
- Cooking
- Lights, fridges, washing machines and other electronics
- Driving

We then cost each home over a single year, using today's prices, and over fifteen years, which includes buying the new equipment and allows for future price changes. The difference between the two is the household's saving.

Our calculations use real-world data from Australian government sources, energy retailers and studies of how much energy households actually use.

Note: Actual savings will vary with each household's circumstances, how and when it uses energy, the retail plan it is on, and how energy prices change in future.

What "going electric" means in our model

The electrified home:

- Replaces gas or LPG heaters with efficient reverse-cycle air conditioners, which heat in winter and cool in summer
- Replaces a gas hot water system with a heat pump hot water system
- Replaces a gas cooktop with an induction cooktop
- Replaces petrol cars with electric vehicles
- Optionally adds rooftop solar and a home battery

Energy use

We take the average energy each type of appliance uses in each state from the Australian and New Zealand Residential Baseline Study 2021. These figures measure what homes actually use, so the efficiency differences between appliances are already included. For example, a heat pump does the same heating job as a gas heater using a fraction of the energy.

We adjust these figures for:

- **Where you live.** Homes in colder states need more heating.
- **How many people live in the home.** Energy use rises with each extra person, but less than proportionally, because a household shares its fridge, lights and heating.
- **Whether it's a house or an apartment.** Apartments generally use less energy than detached houses.

For vehicles, we multiply how far a typical car travels each day in each state, based on the ABS Survey of Motor Vehicle Use, by how much energy that type of car uses per kilometre. We cover small cars, sedans and SUVs. Petrol car fuel use is adjusted to match real-world driving rather than laboratory test results. We also assume EV owners do some of their charging at public fast chargers, which cost more than charging at home.

Energy prices

We use 2026 retail prices for electricity, gas, LPG, petrol and diesel in each state, including the fixed daily charges for being connected to the electricity and gas networks. For the fifteen-year results, we project how each fuel's price is likely to change, based on how energy prices have moved relative to general inflation over the past 25 years.

Electricity costs depend on the household's retail plan, so we model several common types:

- **Flat rate:** the same price at every hour.
- **Time-of-use:** cheaper electricity outside the evening peak.
- **Solar Sharer:** free electricity for a few hours in the middle of the day in return for a higher daily charge, where it's offered.
- **Wholesale-linked plans:** exports from a home battery are paid at evening market prices.

We only assume a household can take advantage of cheaper off-peak power when it realistically could. A gas home, or an electric home without solar and a battery, has little flexibility over when it uses power, so we keep it on a standard flat-rate plan. This stops us overstating the benefits of electrification.

Solar and batteries

Rooftop solar generation depends on the size of the system and how sunny the location is. Houses get a larger default system than apartments, which share limited roof space. We depreciate the solar over 15 years like all other appliances and include one replacement inverter. In practice, the panels and new inverter will last another 10-15 years.

We work out how much of each appliance's energy can come straight from the panels. Some loads are easy to run in the middle of the day, such as a hot water heat pump on a timer or an EV charging at home. Others, like the fridge or evening heating, mostly can't. Households that deliberately shift their energy use into daylight hours get more out of their solar, and we model this as our core "solar-optimised" case.

Solar power the home can't use straight away charges the battery. In the evening, the battery powers the home first, then helps charge the car, and anything left over is sold back to the grid. We account for battery losses, the share of the battery that's usable, and the gradual loss of capacity as it ages. We also assume every home buys at least 10% of its electricity from the grid, because on cloudy days and long winter nights a battery can't cover everything.

Each unit of energy is counted only once. It is supplied by the panels, by the battery or by the grid, never two of these at the same time.

Operating costs (energy and fuel bills)

For each home we add up:

- The cost of electricity bought from the grid, at the household's plan rates
- The cost of gas, LPG, petrol and diesel
- Fixed daily connection charges. A fully electric home no longer pays for a gas connection, which is a real saving in itself.
- Car servicing and maintenance, which is generally lower for EVs

Then we subtract any income from solar exported to the grid. The difference between the gas home's and the electric home's bills is the operating saving.

Upgrade costs

Upgrade costs cover buying and installing the new equipment. We use typical installed prices for mid-range appliances, solar panels, inverters and batteries, based on online prices and real installer quotes data. Homes in colder states typically have more heaters, so we cost more heating units there. We also include a switchboard upgrade for every fully electric home, even though many homes won't need one.

For cars, we use the average prices of popular new petrol models and of representative new EVs in each size class. Our reported savings are based on BYD models (Dolphin, Seal, Sealion) of the three classes compared to an average new petrol version.

Where a state government offers a rebate for heat pumps, solar or batteries, we deduct it from the cost. We model lifetime costs including a loan at 6%.

Checking our work

The model's household-level and appliance-by-appliance results are checked against each other across hundreds of combinations of state, household size, plan type and timeframe to make sure they agree. Our online calculator is also tested against the model so that both give the same answers.

Authors: Calum Harvey-Scholes, Francis Vierboom, Dr Saul Griffith

Citation: Rewiring Australia, (2026). Home energy savings report.

Rewiring Australia

Australia's First Nations have lived with the energy of sea, sky and land for more than 60,000 years. We respect their enduring connection to Country, and we aspire to build an Australia that lives up to it — powered by the sun and wind above us, and wiser for the knowledge that has been held here longest.

rewiringaustralia.org