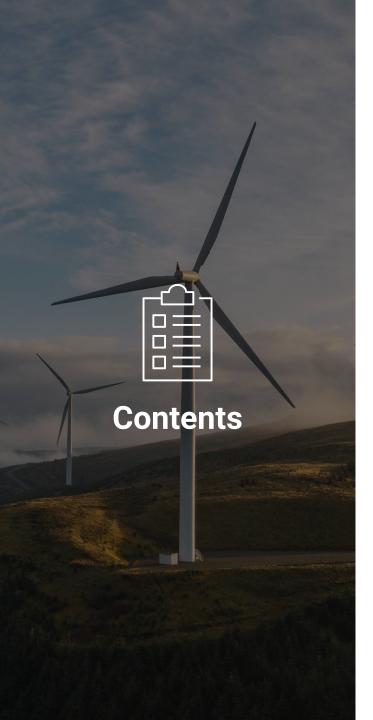
AEMC

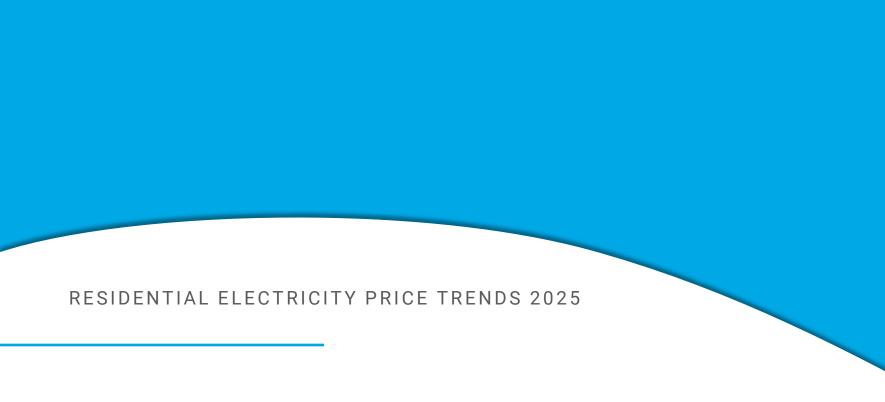
Residential Electricity Price Trends 2025

4 December 2025





1	Introduction	Page 3
2	Executive Summary	7
3	NEM residential electricity price outlook	10
4	Impacts on prices under different scenarios	13
5	Comparison with AEMC's 2024 outlook and other estimates	18
6	Total household energy costs	23
7	Jurisdictional results	32
8	Electricity price cost components	39
9	Policy implications	43



1 Introduction

This section outlines the purpose of this report and how it has changed from previous years. It summarises our current approach to projecting residential electricity prices and household energy costs.

Price Trends is an outlook for residential electricity prices and energy costs

The AEMC has developed a 10-year outlook for residential electricity prices and total energy costs as a whole and by each jurisdiction in the National Electricity Market (NEM)

INTRODUCTION



Electricity price modelling

We modelled the full electricity cost stack – wholesale, network, retail and renewable/energy efficiency schemes costs – using the Step Change scenario from AEMO's 2024 ISP as a base, and updated this with the latest information from AEMO's 2025 ESOO, IASR and ENOR.¹



Drivers and scenario analysis

We identified overall trends in electricity prices and underlying drivers by region. We then analysed the potential impact of variations in supply and demand conditions on prices under different scenarios.



Energy wallet analysis

We estimated total annual household energy costs, including electricity, gas and petrol, to understand how much households could save through electrification and installation of solar and batteries.

PURPOSE

- Assess impact of the changing energy landscape on residential electricity prices
- Promote transparency through an independent price outlook, with publicly documented methods and assumptions
- Inform policy outcomes by identifying the key enablers to keep electricity affordable and reduce energy costs for all households
- Improve understanding about how households' electrification decisions today could influence their future energy costs

Refer to the accompanying **Methodology paper** for detailed information about the methods used and assumptions made.

Price Trends is not a price forecast, and it is subject to risks, uncertainties and modelling limitations

- We modelled the prices and costs in this report using AEMO's latest available system plan (the 2024 ISP Step Change scenario). We updated it with the latest supply and demand outlook from AEMO's 2025 ESOO, IASR and ENOR, and made further assumptions based on data from several other publicly available sources.
- This report should not be taken as a forecast of residential electricity prices, but rather an outlook for electricity and energy costs based on a particular path for demand growth, investment and policy over the next 10 years.
- This outlook is predicated on the data used and the underlying assumptions made in determining costs, prices and trends. The data sources and assumptions are outlined in our accompanying methodology paper. This report covers the regions of the NEM only and excludes Western Australia and the Northern Territory.
- While our scenarios shed light on some of the risks to our outlook, there are a range of additional uncertainties and risks that are more difficult to capture.
- We have not included any government electricity rebates or bill relief in our projected electricity prices.
- We intend to continue updating our projections annually to account for new information and analysis in future publications.

Price Trends is a projection based on assumptions and data available as of 30 September 2025.

Future prices can materially differ from this outlook if underlying assumptions change, including unforeseen changes in:

- Wholesale cost drivers, such as bidding behaviour, commodity prices and the timing of new build and retirement of electricity generation assets
- Demand growth, such as the uptake and use of consumer energy resources (CER)
- Network costs as per updated revenue determinations
- Government policies, such as those related to jurisdictional schemes
- The NEM and the electricity system as a whole

The prices and costs in this report are projected for a typical or representative consumer. This report is not designed to predict any household's bill, nor should it be relied upon as a forecast for investment decisions.

This report is based on updated data and a refined methodology

We have incorporated new data into this year's report and made several methodological refinements. Our intent is to progressively enhance our reporting to maximise its value.

Data updates

Since there is no 2025 ISP, we have used the 2024 ISP Step Change scenario as a basis and updated it using data from AEMO's 2025 ESOO, IASR and ENOR for our report this year.

Our outlook therefore captures:

- AEMO's updated demand projections, which now project a slower overall electrification rate and a slower CER uptake, relative to AEMO's projections in the 2024 ISP
- Updated supply conditions, including changes to: government targets such as the revised <u>Capacity Investment Scheme</u> (CIS) target of 40 GW; committed and anticipated projects; and technology costs for new investment
- Updated network costs and project timelines, and the AER's latest revenue determinations
- Potential impact of the Federal Government's Cheaper Home Batteries Program as a new scenario and in our energy wallet analysis.¹

Methodological refinements

We have refined and extended our modelling for Price Trends 2025 by:

- Simplifying estimation of wholesale price volatility by modelling the supply mix, and the impact of modelled supply conditions on prices, as discrete steps
- Modelling upfront costs of electrification, and calculating the net payback for a range of different electrification actions
- Modelling a 'reference household' to calculate the energy wallet, and the upfront and ongoing costs and benefits of electrification
- Including home batteries into our analysis of the costs and benefits of electrification

Refer to our methodology paper for more details on these changes. Refer to <u>page 20</u> of this report for an analysis of the impact of these changes on our wholesale price outlook.

Reporting enhancements

Based on the updated data and refined methodology, this year's report now includes:

- Residential electricity cost index based on our projected prices and drivers of electricity consumption (page 12)
- Additional scenarios to assess the impact of higher hedging costs, increased fuel costs, decreased coal reliability, a faster wind and transmission build, and a faster uptake of home batteries (pages 13 - 17)
- Comparison of this year's outlook with our 2024 report, including key drivers of our revised outlook (pages 18 - 21)
- Comparison with jurisdictional standing offer retail prices, explaining why the differences generally reflect a different purpose and/or a different reference household (page 22)
- Jurisdictional breakdown of total household energy costs over 10 years (page 24)

^{1.} Note that the recent uptake of home batteries has been markedly faster than projected by AEMO's 2025 IASR (the data we use) or our scenario analysis.

RESIDENTIAL ELECTRICITY PRICE TRENDS 2025

2 Executive Summary

Summarises the key results and implications of our price outlook

A faster renewable build-out is needed to avoid electricity prices from rising

With a faster rate of electrification, more renewables would reduce household energy costs

We project residential electricity prices to increase slightly overall

- We project prices to fall by 5% over the next five years, supported by new renewable build out.
- Under our base case, this build out is not projected to be fast enough to avoid a 13% price rise over the subsequent five years.
- Overall, we project prices to rise by 0.8% per year, on average, across the NEM over the next decade.
- There is still time to act to avoid a price rise through a faster renewable buildout, more flexible demand, coordinated use of CER, and increased network utilisation.

Slower renewable buildout drives projected higher wholesale costs

- We identify a risk of higher wholesale costs over the later half of our outlook.
- This is due to less flexible demand and slower buildout of renewables than was projected in 2024, which would increase reliance on relatively more expensive gas generation after coal plants retire.
- All other cost components are projected to either remain stable or fall.
- Despite rising prices, we project electricity costs to be stable as households install solar and become more energy efficient.

Delays to renewables & transmission, poor CER integration are key risks

Our electricity price scenarios highlight that:

- Delays to new renewable generation & transmission build, and sub-optimal CER coordination would put an upward pressure on prices.
- Continuing to rely on our aging coal fleet would also pose a risk to prices if they become less reliable.
- Consumers would benefit from more timely and efficient grid connections, particularly for wind generation, as it diversifies the supply portfolio which lowers wholesale prices.

Electrification can reduce total household energy costs

- Households can reduce total energy costs by up to 90% if they fully electrify today: to switch to an EV, electrify gas appliances, install solar panels and household batteries.
- On average, electrification is projected to reduce household energy costs by about \$900 per year, or 15% of current spending on energy, over the next decade under our base case.
- to reduce the differences in average household energy costs across NEM regions.

Electrification savings typically exceed upfront investments

- The ongoing savings from electrification generally exceed the upfront costs a household would incur.
- While costs and benefits vary between household types, typical payback periods are less than 10 years if households electrify today.
- We recognise that many households are currently unable to electrify due to barriers including upfront costs and where they live.
- Thus, ensuring all households have options to electrify would promote an equitable transition.

We highlight three actions to ensure electrification benefits all households

Reduce barriers to building new energy resources



A faster build-out of renewable generation and transmission would reduce residential electricity prices, and encourage a faster rate of electrification, which would reduce total energy costs for all households.

This relies on efficient and timely investment, which requires:

- Credible, cost-effective mechanisms and initiatives to ensure sufficient renewable generation and firming is in place before existing coal plants retire, and as electricity demand increases with electrification
- Action on key recommendations from the <u>NEM wholesale market settings</u> <u>review</u>, and the <u>Productivity Commission</u> to speed up approvals and investment for new energy infrastructure
- A continued focus on fostering social licence by NEM jurisdictions, investors and electricity networks
- Maintaining system security to ensure a reliable grid

Encourage a CER uptake that lowers peak demand



Lower peak electricity demand would reduce electricity prices for all consumers by reducing the network investment needed, and the risk of wholesale price spikes.

This requires:

- Boosting CER uptake, such as through the <u>Cheaper Home Batteries Program</u>, to allow household demand to be more flexible if CER is well coordinated.
- Better CER coordination to allow households to consume more electricity when it is cheaper and less in peak periods. The AEMC has undertaken rule changes, like <u>Integrating Price</u> <u>Responsive Resources</u> and <u>Accelerating</u> <u>smart meter deployment</u> by 2030, to support more responsive electricity demand and promote CER coordination.
- A nationally consistent regulatory framework for CER, through the <u>CER</u> <u>Taskforce</u>, to have appropriate standards for CER to get the most out of these resources.

Provide all households with options to electrify



Electrification can reduce energy costs. But barriers to adoption exist for many households such as:

- Inefficient price signals faced by consumers
- Limited scope for rooftop PV and battery installation, such as for renters and apartment dwellers
- Limited access to EV charging infrastructure
- Inability to afford the upfront costs

These barriers could be addressed through:

- Pricing electricity to better suit consumer usage. The AEMC's <u>Pricing Review</u> is developing reforms to network and retail pricing to give consumers more meaningful choices at the lowest overall system cost.
- Facilitating more efficient consumer choices for gas electrification. The AEMC has recently made draft rules to introduce efficient charges upfront to connect to or disconnect from the gas network.
- A focus by policymakers to ensure the broadest spectrum of households can electrify, which could include measures to temporarily offset upfront costs.
- Addressing barriers to EV uptake. With EV's only 2% of vehicles in Australia today, more people could benefit from electrifying their car than their house.



3 NEM residential electricity price outlook

Shows the residential electricity price outlook for the NEM, including a breakdown by components, and the residential electricity cost index

Prices to fall over the next five years, then rise over the subsequent five years

There is time to avoid a price rise through a faster renewable build-out, and more coordinated CER uptake

NEM average residential electricity price outlook



- We project prices to fall by about 5% in the next five years.
 Prices initially fall as new renewable generation gets built, although the fall is smaller relative to our 2024 outlook. This is because we project a slower renewable build-out, driven by a weaker demand growth under the 2025 ESOO Step Change scenario (see pages 19 21 for further analysis).
- Prices are then projected to rise by 13% in the second half of the outlook, due to a tightening supply-demand balance in the wholesale market after 2030. This is projected to increase reliance on more expensive gas generation, together with a slower CER uptake, raising costs to meet evening peak demand.
- On average, we project prices to rise by 0.8% per year over 10 years. This calls for credible, cost-effective mechanisms and initiatives to ensure sufficient renewable generation and firming are in place before existing coal plants retire, and as electricity demand increases with electrification.
 - **Network costs are projected to be stable,** with an opportunity to lower costs through better network utilisation via a faster uptake and more coordinated use of CER.

Wholesale costs

Falling in the near term, then rising over 2030-33 as renewable supply lags demand growth, before stabilising in the final years as more renewables enter

Network costs

Stable over the horizon despite increasing network capital expenditure, as it is offset by a moderate increase in demand

Retail costs

Stable over the horizon

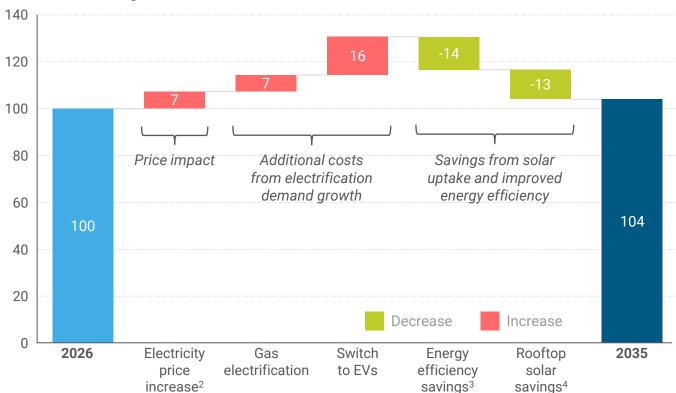
Renewable / energy efficiency schemes costs

Falling as most of schemes end in the next 10 years

Despite a projected price rise and electrification demand growth, average costs would remain stable as households install solar and get more energy efficient

NEM residential electricity cost index over 10 years¹

Base 2025-26 usage = 100, real 2025-26



1. Electricity costs = NEM average electricity prices *times* Average electricity consumption per household. 2. Electricity cost increase due to projected rise in NEM average residential electricity prices over 2026-2035. 3, 4. Projected reduction in NEM average residential electricity costs due to improved household energy efficiency (e.g. more efficient appliances, better insulation), and new rooftop solar installations over 2026-2035 based on AEMO's 2025 ESOO Step Change scenario.

- Despite our projected rise in residential electricity prices, and growth in demand from household electrification, average household electricity costs are projected to remain stable over our outlook.
- Improved household energy efficiency and rooftop solar uptake are projected to more than offset the increase in demand from gas electrification and switch to EVs, offsetting the impact of our projected price rise.
- Average household electricity costs are projected to be broadly stable even before accounting for any additional energy cost savings from reduced gas or petrol consumption from electrification, as shown on pages 24 - 25. This highlights the value of measures which support household energy efficiency, and/or encourage households to be more flexible about when they consume electricity from the grid.
- Household batteries can further reduce electricity costs by lowering the costs of meeting peak demand, as highlighted in our scenarios (page 15) and energy wallet analysis (pages 26, 30).



4 Scenarios

Shows the impact of changes to important supply and demand side cost drivers

We modelled the price impact of changes in electricity supply and demand

We developed these scenarios by considering what factors could be influenced by policy or the AEMC's rule changes over the 10-year outlook, while considering scenarios that were most feasible to model.

Positive impact

Negative impact

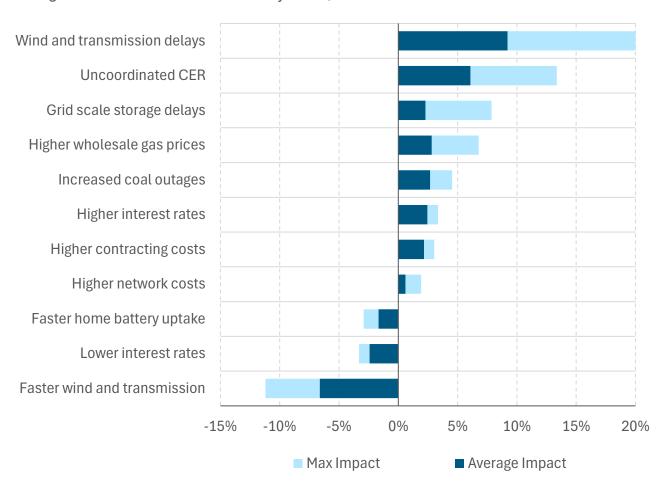
New scenarios modelled in 2025 (\$\frac{1}{2}\$)

		Scenario	Description	
Supply change	1	Delayed wind and transmission build	 Buildout of all generic wind resources delayed by 12 months Marinus Link, VNI West, New England REZ, Gladstone and CopperString network infrastructure projects delayed by 12 months, with associated network costs increased by 30% 	d 🛑
	2	Faster wind and transmission build	 Buildout of all generic wind resources accelerated by 12 months Transmission projects listed above accelerated by 12 months, but keeping costs unchanged 	☆
	3	Delayed grid scale storage build	 Snowy 2.0 delayed by 12 months All anticipated and generic grid scale battery energy storage system builds delayed by 12 months 	
	4	Higher network interest rates	1% higher interest rates over the next 10 years	
	5	Lower network interest rates	1% lower interest rates over the next 10 years	
	6	Increased network costs	Doubled network replacement expenditure after each DNSP's 5-year regulatory control period	
	7	Increased contracting costs	Doubled premiums for purchasing electricity contracts	
	8	Higher wholesale gas prices	Doubled fuel prices for gas powered generators	
	9	Decreased coal reliability	Increased outage rates of coal plants by 5 percentage points	
Demand change	10	Faster electrification ¹	Electrification demand 12 months ahead of AEMO's projections	
	11	Slower electrification ¹	Electrification demand 12 months behind AEMO's projections	
	12	Uncoordinated CER	EV charging done exclusively on an 'unscheduled' basis, where charging mostly occurs in the evening peak rather than spread out across the day through a mix of charging profiles	
	13	Faster home battery uptake	20% faster increase in home battery installation relative to AEMO's projections	₩

Delivering new wind, transmission and storage projects on time and coordinated CER can keep electricity prices stable

NEM residential price outlook – scenario analysis

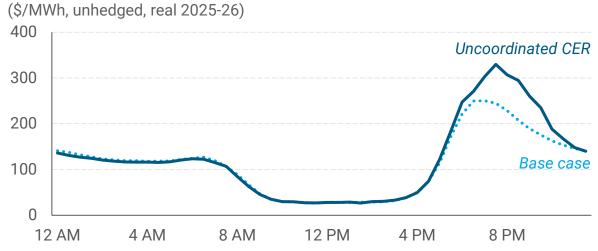
Change in annual household electricity costs, relative to base case



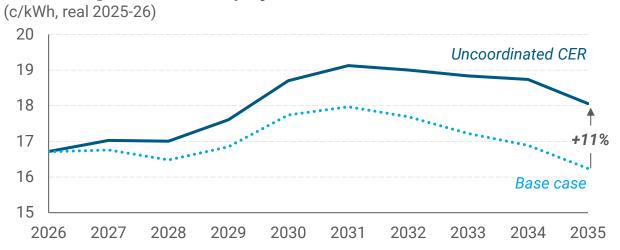
- Delays to new wind and transmission build, and the uncoordinated use of CER are projected to have the biggest impact on electricity costs.
- This is consistent with our 2024 report, and highlights the importance of ensuring timely and efficient connection of new wind and transmission, and smoothing grid demand. The new scenarios we have modelled would have more moderate impacts on household electricity bills.
- A faster battery uptake can reduce electricity costs for all households by up to 3% annually. Note that under the Cheaper Home Batteries Program, actual battery uptake over Jul-Oct 2025 has markedly exceeded the accelerated rate modelled in this scenario (see page 46).
- The higher gas price scenario underlines the risk of commodity price shocks to keeping electricity costs stable.
- The increased coal plant outage scenario shows, if coal plants become less reliable as they age, continuing to rely on our aging coal fleet would also pose a risk to prices.
- Higher network costs generally have the lowest overall impact. This is partly because network costs are recovered gradually from consumers over a longer period than our 10year outlook.

Coordinated CER can lower the costs of meeting peak demand

NEM average wholesale spot price projections

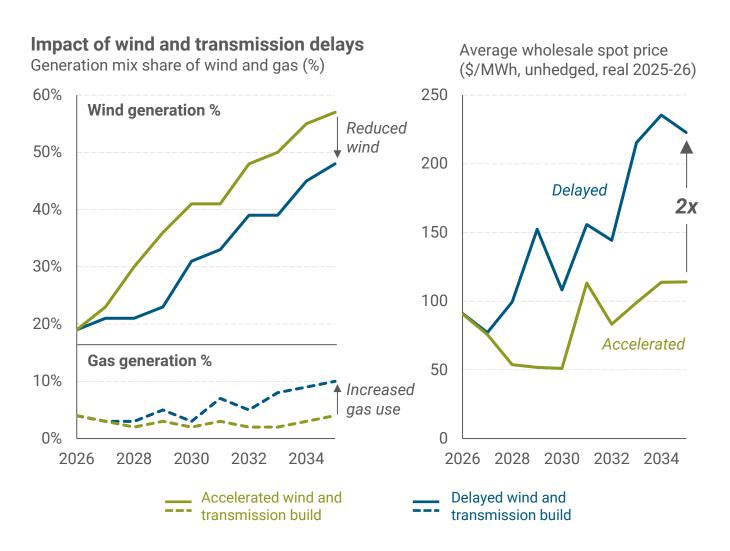


NEM average network cost projections



- The coordinated use of Consumer Energy Resources (CER) is essential to support lower electricity costs, by reducing wholesale price spikes and the need for network augmentation.
- To illustrate the potential price impact of uncoordinated CER, we modelled a scenario where EV charging shifted from AEMO's Step Change projection to charging exclusively on an 'unscheduled' basis, mostly during evening peaks. This increased evening wholesale prices.
- Furthermore, as evening demand grows over the next decade, it would increase the need for network investment to support an additional 'peak' load, thereby increasing network costs.
- In practice, a range of actions can support a more coordinated consumption of electricity by households. This includes investments in physical resources, such as home batteries, or through pricing that promotes the efficient use of electricity, which could include lower prices when electricity is plentiful.
- Ensuring that CER is integrated in a way that supports the grid
 is especially important considering the recent increase in
 behind-the-meter battery installations, so that these resources
 intelligently smooth demand over the day to lower the costs
 of meeting evening peak demand periods.

Wind and transmission delays could lead to higher prices by increasing reliance on gas generation



We modelled two symmetrical scenarios for wind and transmission build-out: (1) delayed by one year, and (2) delivered one year earlier than planned.

We find that speed of new wind generation and transmission buildout can have an outsized impact on wholesale spot prices.

Delays could cause wholesale spot prices to nearly double compared to faster build because:

- Wind diversifies the electricity supply portfolio and provides a lower cost source of generation during times of high demand, thereby playing a critical role in the transition
- Reduced wind generation increases reliance on more expensive gas generation in evening peaks
- Transmission delays limit new generation capacity that could be connected to the grid

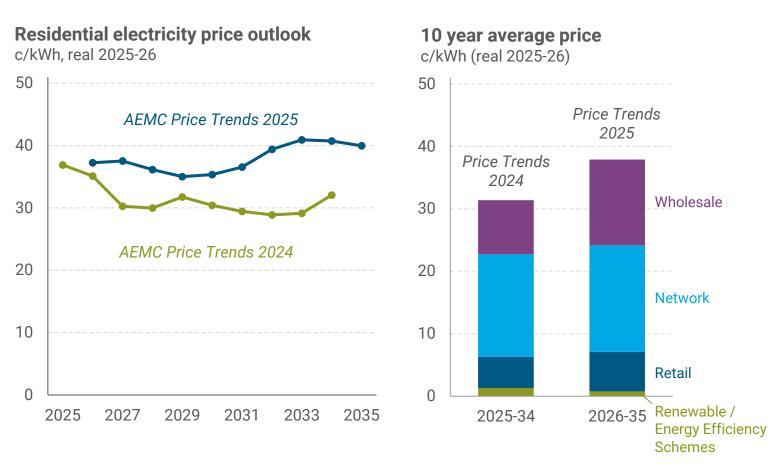
However, we note that the **impact of delays on residential prices would be less volatile** since they are generally 'hedged' by retailers before being passed on to customers, and wholesale costs are only one component of electricity prices, albeit a substantial component.



5 Comparison with AEMC's 2024 outlook and other estimates

Shows how this year's outlook compares with previous price trends reports and other publications

Our projected prices are higher this year due to a slower renewable build-out and slower electrification than was expected in our 2024 outlook



Our 2024 outlook was based on 2024 ISP's demand and renewable build-out. Our 2025 outlook incorporates the 2025 ESOO's updated residential demand, and adjusts the renewable build-out correspondingly, considering updated State and Federal government policy targets.

Our electricity price outlook is higher this year primarily due to **weaker electrification demand growth** in the 2025 ESOO Step Change scenario, compared to the 2024 ISP demand we used last year.

This impacts our outlook through:

- slower renewable build-out, resulting in higher wholesale costs over 10 years
- less flexible demand profiles with increasing evening peak demand when prices are higher
- lower projected network utilisation, resulting in higher network costs per unit

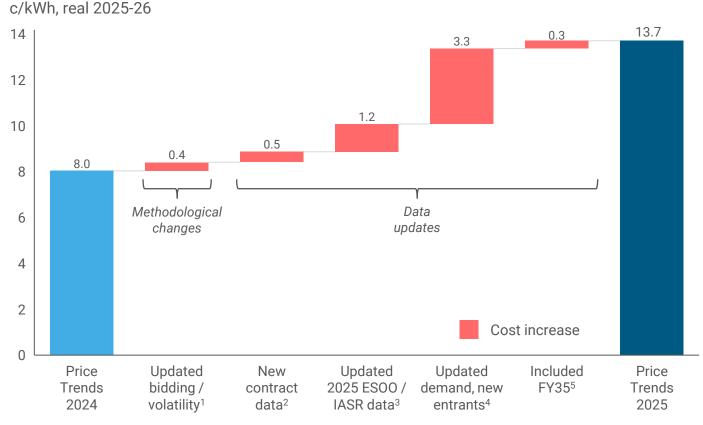
Retail cost projections are also slightly higher based on the latest ACCC data on retail costs.

These projections highlight how a faster buildout of renewable generation, with a wellmanaged demand growth from electrification, is needed to place downward pressure on electricity prices.

We will continue to update this chart annually to compare our projections over time.

Wholesale | Higher wholesale costs compared to our 2024 outlook are driven by a slower renewable buildout

Wholesale cost breakdown (10-year average)



- 1. Updated bidding methodology, with a short-run marginal cost dispatch model + volatility uplift to model bidding dynamics
- 2. Updated data on ASX contract prices and spot prices to date in the initial years of the model
- 3. Updated ESOO and IASR properties related to technical settings, start dates, outages, and Demand Side Participation
- 4. Updated demand projections, along with the new entrant buildout required to meet demand and satisfy policy constraints
- 5. Included an additional year of projections in the horizon

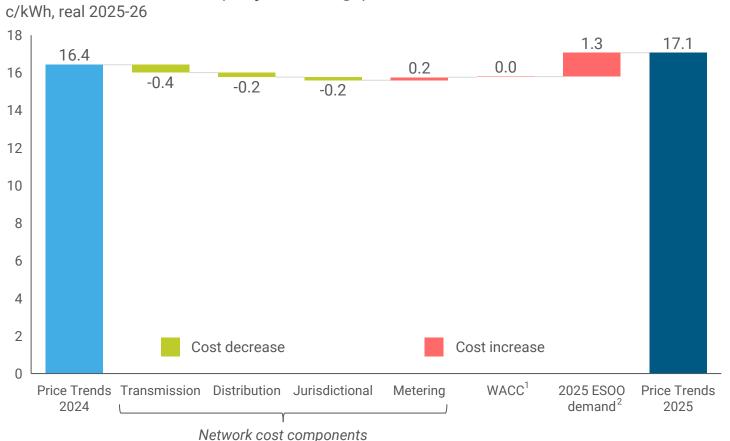
We have updated our methodology and underlying data sources, which has led to higher projected wholesale costs relative to our Price Trends 2024 outlook.

- Updated demand and generic renewable buildout from the 2025 ESOO account for most of the increase in wholesale prices. This is because 2025 ESOO demand and policy targets lead to a smaller buildout of new renewables over our outlook period, which lowers the reserve margin and increases prices.
- Updated model inputs from the 2025 ESOO and IASR account for a moderate increase in wholesale prices, driven by a weaker outlook for aggregated distributed storage capacity, which has been more than halved by the end of our outlook period relative to the 2024 ISP.
- Updated bidding approach, using a more streamlined short-run marginal cost and volatility model based on reserve margins, only leads to a small increase.
 Our new approach better captures real-world volatility, with slightly higher prices, particularly in the final years when supply is projected to be tighter.

Refer to our methodology paper for more details.

Network | Higher network costs compared to our 2024 outlook are driven by a weaker demand growth outlook despite delayed network build costs

Network cost breakdown (10-year average)



Differences in network costs between Price Trends 2024 and 2025 are mainly driven by:

- Transmission delays While transmission capex is rising overall, delays to several major transmission projects have pushed these costs out to later in the horizon, contributing to a net cost reduction over our outlook period compared to last year.
- Relatively lower jurisdictional scheme costs as higher wholesale costs reduce the costs flowing to customers via these schemes.
- Weaker ESOO 2025 demand Total network costs would be borne by a smaller demand volume, resulting in lower network utilisation, and higher prices per unit relative to our 2024 outlook.

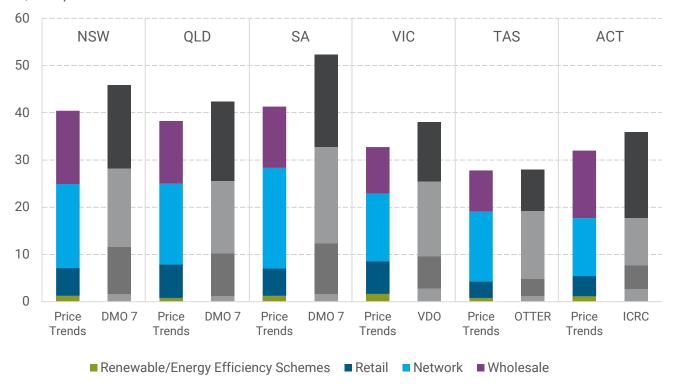
^{1.} WACC - Weighted average cost of capital.

^{2.} Impact of a slower demand growth outlook in the 2025 ESOO relative to the 2024 ISP.

Our prices are broadly consistent with jurisdictional standing offer prices

The differences generally reflect a different purpose and/or a different reference household

Comparison with jurisdictional standing offer prices for 2025-26¹ c/kWh, real 2025-26



1. DMO – Default Market Offer; VDO – Victorian Default Offer; OTTER – Office of the Tasmanian Economic Regulator; ICRC – Independent Competition and Regulatory Commission. The DMO, VDO, OTTER and ICRC standing offer prices for 2025-26 electricity cost components were announced in May 2025. Note that these offer prices are all short-term forecasts. DMO, VDO and ICRC tariffs are based on a residential customer with a reference level of annual consumption on a fixed tariff with no controlled load.

Our modelled prices are about **11% lower** (on an average price basis) compared to the DMO, VDO, OTTER and ICRC prices for 2025-26.

While slightly lower, this is expected and due to differences in methodology and assumptions, given the DMO and jurisdictional equivalents are generally:

- · a safeguard which estimates a 'reasonable' price
- calculated for a relatively high tariff structure (a fixed tariff with no controlled load)
- calculated based on a reference level of demand, which is typically about 20% lower than average household consumption – leading to a higher per-unit price

There are also timing differences between our prices and the jurisdictional estimates which can lead to differences in estimates.

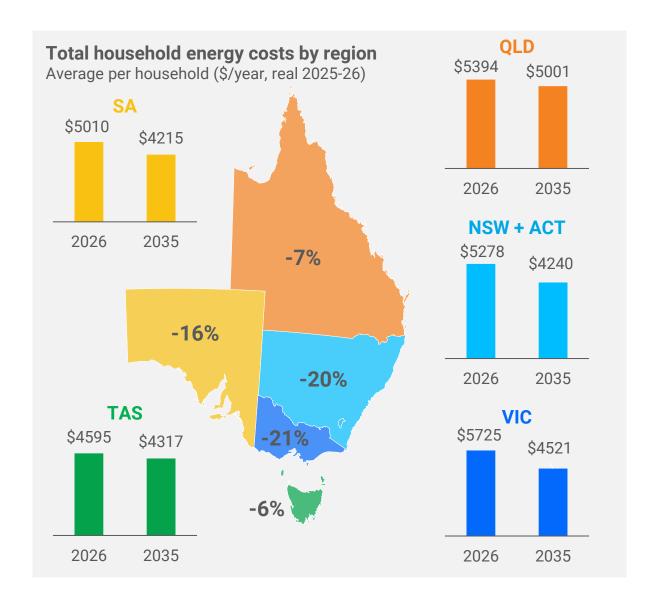
Overall, the rise in prices between our Price Trends 2025 and 2024 projections is similar to the increase in jurisdictional standing offer prices for 2025-26 compared to 2024-25.



6 Total household energy costs

Shows how total household expenditure on energy would change over the horizon as households electrify, and models the typical payback period for different electrification actions

Electrification is projected to lower total household energy costs in all regions



Household energy costs account for:

- Electricity lighting, appliances, heating, cooling, cooking, EV charging, etc.
- **Petrol** internal combustion engine (ICE) vehicles
- Gas heating and cooking
- Solar reduced grid demand due to rooftop solar

These comprise the 'energy wallet' of what households pay. We project that, with continued electrification over the next decade, average total household energy costs would:

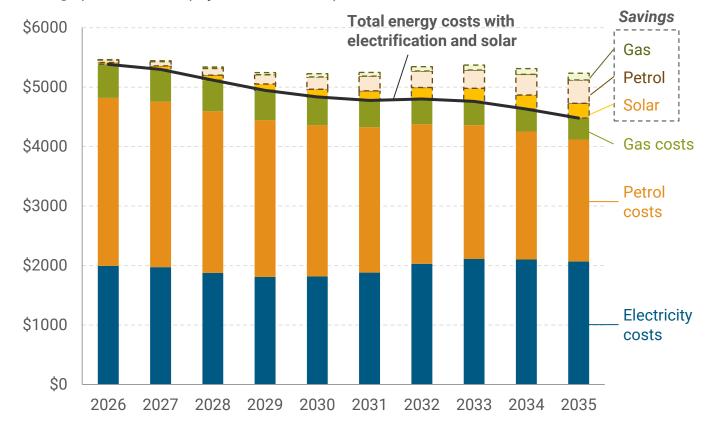
- Fall across all NEM regions, with Victoria projected to have the largest savings, and SA projected to have the lowest average costs among all regions by 2035
- Fall by 16 21% in NSW, ACT, VIC and SA on average
- Fall by 6 7% in QLD and TAS, due to a significantly lower gas usage in these states compared to other regions and limited residential rooftop solar in TAS.

While total cost savings vary due to regional factors (like annual gas usage, petrol prices, policy settings, etc.), electrification is expected to reduce regional differences in average household energy costs over time.

Electrification is projected to lower average household energy costs

NEM average household energy costs

Average per household (\$/year, real 2025-26)

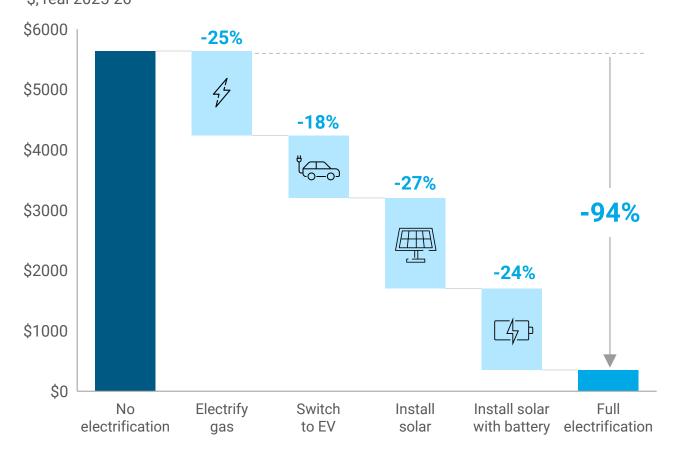


Note: This analysis represents the average savings in the NEM. An individual household's energy costs and savings could differ from this outlook depending on their degree of electrification and energy usage.

- Across the NEM, we project electrification to reduce average household energy costs by about \$900 per year, or 15% of current household spending on energy.
- EVs are projected to drive most of the cost savings, with electrification of gas usage and additional energy from rooftop PV uptake also projected to lower system costs.
- Note that this analysis only considers costs on average, based on the rate of electrification modelled in AEMO's 2025 ESOO and IASR. It shows that a significant proportion of households are projected to electrify over the next decade.
- However, many households are currently unable to fully electrify – due to financial and other barriers.
 The projected reduction in total energy costs from electrification highlights that:
 - there is an opportunity to ensure all households see equitable outcomes regardless of their ability to electrify
 - it is critical for policymakers to ensure the broadest spectrum of households can electrify

A household that electrifies today can save up to 90% in energy costs per year

Cumulative household energy cost savings from electrification¹ \$. real 2025-26



^{1.} Household energy costs are defined as the sum of petrol costs, usage and daily supply costs for electricity and gas, minus any electricity export revenue. NEM average cost savings are for a 3-person household with 3-star energy efficiency rating, installing a 10 kW solar and 15 kWh battery system. Savings for an individual household will vary from the above estimate depending on household size, annual energy needs and their stage of electrification.

Our modelling suggests that if a household can fully electrify, they could reduce their energy expenditure by as much as 90% per year.

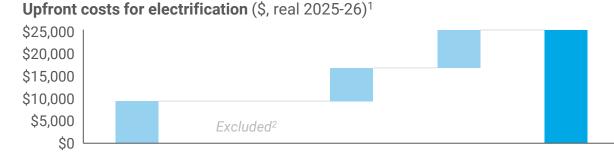
Starting with a household with 'no electrification', we modelled the savings for a 'typical household' if they:

- Replaced gas appliances (space heaters, water heater, cooktop and oven) with electric equivalents,
- Replaced an ICE vehicle with an EV
- Installed rooftop solar and battery

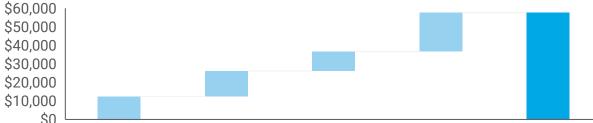
The modelling shows significant savings for most electrification actions. Relative to Price Trends 2024, we project:

- Greater savings from gas switching. This is because our typical household starts with 'all gas' appliances, whereas last year we assumed they had already partially electrified some gas appliances.
- Smaller savings from purchasing an EV. This is because, compared to last year, petrol prices are lower and our outlook for electricity prices is higher.

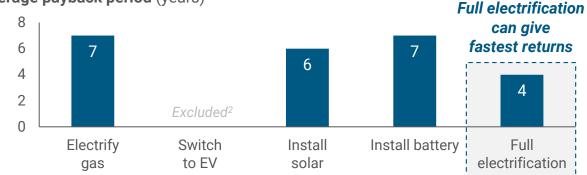
Electrification savings generally exceed the upfront costs over a 10-year period







Average payback period (years)



1. NEM average costs for a 3-person household with 3-star energy efficiency rating, installing a 10 kW solar and 15 kWh battery system. Costs include installation and any available government subsidies. 2. The upfront cost of a new EV compared to a new ICE vehicle was excluded from the analysis. 3. Net present value with future costs discounted assuming a real 5% interest rate

This year we also modelled the typical upfront and ongoing cash flows arising from electrification. This allowed us to estimate the typical payback periods for electrification actions.

For example, we estimate that for the typical household:

- Gas switching pays for itself in 7 years
- Solar installation after gas and vehicle switching pays off in 6 years
- Battery installation after solar installation and gas and vehicle switching pays off in 7 years
- Full electrification, excluding the upfront cost of an EV, pays off in 4 years.

Our analysis includes energy costs, as well as ongoing maintenance costs, but excludes depreciation as we account for the full costs of electrifying up front.

Government subsidies support these low pay-back periods, which include the:

- Cheaper Home Batteries Program
- Federal Small-scale Technology Certificates (STCs) for heat pump hot water and rooftop solar, and
- State and territorial discounts (VEECs, ESCs, PRCs, REPS credits) and rebates (e.g., Victorian solar PV rebate)

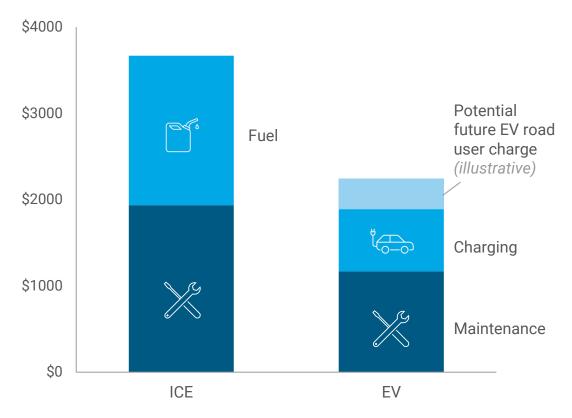
We have presented the cumulative cost savings of vehicle switching over 10 years excluding the upfront cost of purchasing an EV (versus a petrol vehicle):

- Consumer preferences for EVs vary greatly, which makes choosing a 'typical' EV purchase price problematic
- There is also uncertainty about a future road user charge
- Our figures allow households to factor the future fuel cost savings if they looking to purchase a new car

Switching to an EV can reduce annual running costs by about 40%

Annual running costs for ICE vs EV

NEM average cost for a mid-sized vehicle, \$ real 2025-26



Note: A road user charge is included for illustration only to highlight that modelled cost savings are robust to the introduction of a moderate road user charge in the near future. Ongoing costs exclude insurance and registration.

EV owners are projected to have significantly lower ongoing energy and maintenance costs compared to households with ICE vehicles.

The annual fuel cost savings for a typical household are projected to be more than \$1,000 per year, as EVs are more energy efficient than ICE vehicles. The energy cost savings are smaller this year, because petrol prices are lower, and the outlook for electricity prices is higher, than in last year's report.

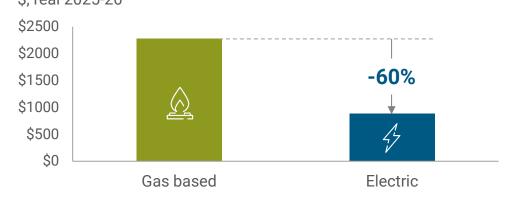
This year's projections also capture maintenance costs. Switching to a mid-sized electric vehicle (EV) can also save a household over \$750 in annual maintenance costs, on average. EVs have fewer moving parts (e.g. engine, belts, chains, pipes) and consume fewer fluids (e.g., engine oil) than ICEs.

In September 2025, State and Commonwealth Treasurers released a joint statement on road user charging. While the design of a road user charge is unknown, if a moderate road user charge were to be introduced in the near-future, it would not significantly alter the potential cost savings of purchasing an EV. To project this, we calculated the potential annual cost burden based on the NSW road user charge, which is currently planned to apply from 1 July 2027, or when EVs make up 30% of new vehicle sales in NSW, whichever occurs first.

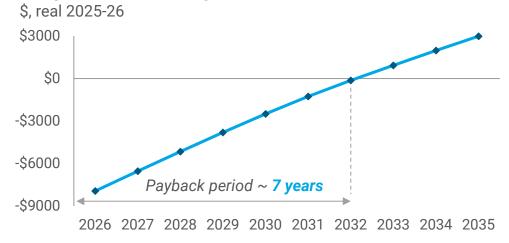
A small share of Australian households currently own an EV, despite the upfront costs being comparable to an ICE vehicle in many cases. This suggests there is most scope to boost the rate of electrification by addressing the barriers to EV adoption to accelerate EV uptake.

Electrifying gas appliances can reduce heating and cooking costs by 60%

Average annual energy costs for heating and cooking¹ \$. real 2025-26



Net present value for gas electrification^{1,2}



- 1. NEM average costs for a 3-person house with a 3-star energy efficiency rating.
- 2. Future values discounted to a net present value using a 5% real discount rate.

We calculated the energy expenditure of a typical household with electric and gas appliances, compared to the same household with all-electric appliances.

Before electrifying, this household had:

- Gas ducted or gas room heaters for space heating (depending on region)
- · Instant gas or a gas storage hot water system, and
- · Gas cooktops and ovens for cooking

Replacing these gas appliances with energy-efficient electric appliances could lower this reference household's annual energy cost by about \$1,400 per year.

While appliance electrification involves upfront purchase and installation costs, these are offset by ongoing cost savings, and in some cases are supported by government subsidies for reverse cycle air-conditioners, heat pump hot water systems, and electric induction cooktops.

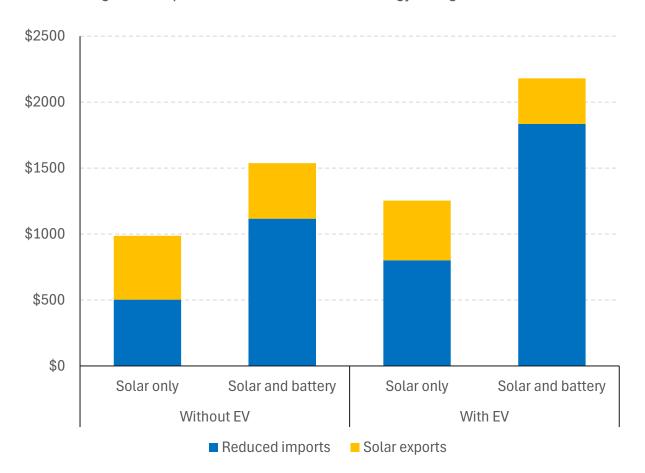
For the typical 'reference' household we modelled, gas appliance electrification pays for itself in 7 years. Of course, a household's actual costs and savings may differ from this benchmark for a range of reasons, as:

- Many households have already partially electrified some of their appliances (e.g. relying exclusively on reverse cycle air-conditioners), and so the remaining savings would be lower
- When, and how much gas a household uses throughout the year, may differ from our reference household
- When they replace assets matters a household could see a faster payback than we have modelled if they can replace their existing gas appliances, with electric ones, as existing appliances reach the end of their life.

Installing solar and battery can significantly lower household energy costs

Annual electricity cost savings from installing solar and battery

NEM average for a 3-person house with a 3-star energy rating; real 2025-26



We also estimated the cost savings for a household that can install an average-sized 10kW solar system, under four scenarios where they install:

- Solar only
- Solar and a 15kWh battery as well
- Solar, if they also own an EV
- · Solar and battery, with an EV

A household that installs a 10kW rooftop solar system can typically save around \$1,000 annually on their electricity costs. If they install a 15kWh battery as well, they can save an additional \$600 annually.

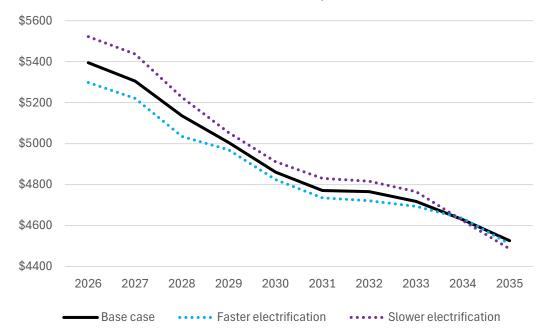
If a household has already electrified their vehicle, installing solar saves them around \$1,200 annually. If they install a battery as well, they can save an additional \$900 annually.

This shows that the returns for solar and battery installation are greater for households with larger electricity demands.

Faster electrification could lower energy costs if well-managed

Average annual household energy costs

Faster and slower electrification scenarios, real 2025-26



We modelled the impact of a faster, and a slower rate of electrification than what is projected in the ISP:

- The faster electrification demand scenario models the impact on household energy costs if electrification demand was 12 months ahead of AEMO's projections
- The slower electrification scenario, symmetrically delays household electrification demand by one year

- The faster electrification scenario is projected to reduce overall household energy costs. While a faster rate of electrification would increase electricity costs as households consume more electricity, this is more-than-offset by the savings they would make by avoiding fuel and gas costs as they electrify more quickly.
- These scenarios may underestimate the benefits of faster electrification. As outlined in our methodology paper, both scenarios were modelled as an unanticipated demand increase without a change in generation investment. In reality, faster electrification may be met with increased generation investment over time. Our scenario may therefore underestimate the energy cost savings from faster electrification, particularly in the later years of the outlook. Conversely, a slower rate of electrification may be met with lower supply, and an increase in energy costs in the later years of the outlook, as supply responds to the slower rate of growth.
- This highlights the importance of removing barriers to entry for new generation, e.g. speeding up planning and connections processes, to ensure that investment can come online in response to increased electricity consumption. Removing these barriers would ensure the benefits of electrification to households do not erode over time.
- The analysis reinforces the benefits of removing the household barriers to electrification in order to achieve, or even exceed, the rate of electrification projected in the Step Change scenario.



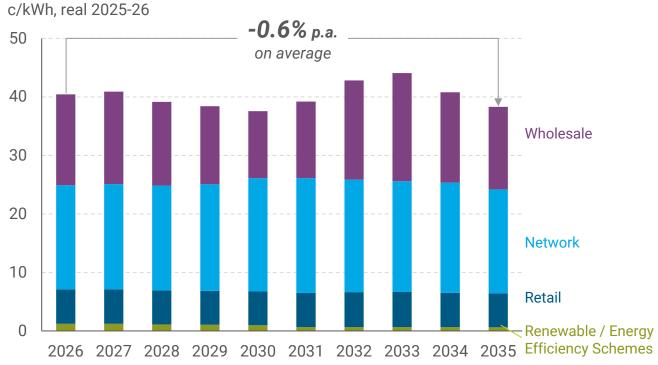
Jurisdictional results

Shows the price outlook for each jurisdiction and highlights key cost drivers

NSW prices are projected to be stable over the outlook period

Strong renewable build-out puts downward pressure on NSW prices

Residential electricity price outlook



For NSW, we project:

- Prices to fall slightly, compared to the NEM average, as increased interconnection with other states and relatively faster renewable build-out are projected to ease NSW prices
- A smaller reduction in prices relative to our 2024 outlook, in line with a slower renewable build out
- No sustained price impact due to the retirement of Eraring in FY28 and Vales Point in FY29, under our base case, contingent on a strong renewable buildout to replace them
- No overall increase in network costs due to the NSW Electricity Infrastructure Roadmap costs, despite a projected increase in those costs which are funded through network revenues

Wholesale costs

Falling slightly, supported by increased interconnection and a relatively faster renewable build-out

Network costs

Flat overall, with a projected increase in NSW electricity roadmap costs absorbed by a modest rise in demand

Retail costs

Stable over the horizon

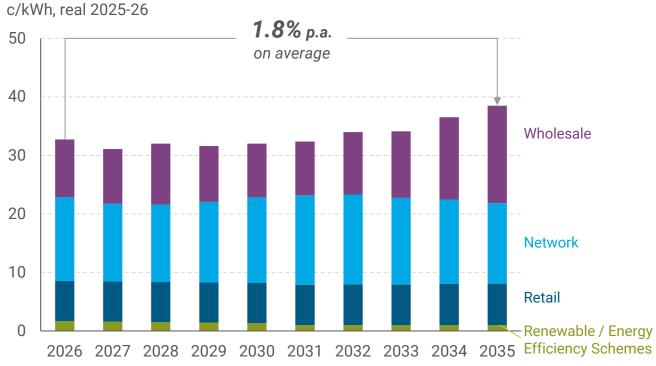
Renewable / energy efficiency schemes costs

Falling in line with national trends

Victorian prices are projected to rise towards the end of the outlook period

Tightening supply-demand balance and increase in transmission costs place upward pressure on prices

Residential electricity price outlook



For Victoria, we project:

- Prices to be impacted by slower and less flexible demand growth, and a slower renewable build-out compared to our 2024 outlook
- Transmission costs to increase modestly in the middle of the outlook period for residential consumers due to VNI West and Marinus Link
- Fastest rate of electrification across the NEM, with the largest projected reduction in average household energy costs, which would offset the rise in prices

Our network cost projections include the latest data from the AER's Draft Determinations for Victorian distribution networks for 2026-2031 and AusNet's proposed transmission costs for 2027-2032.

Wholesale costs

Relatively stable before rising in 2034 as the Loy Yang A coal plant retires and electrification demand grows

Network costs

Flat overall, with an increase in transmission costs from major interconnectors offsetting an increase in demand

Retail costs

Stable over the horizon

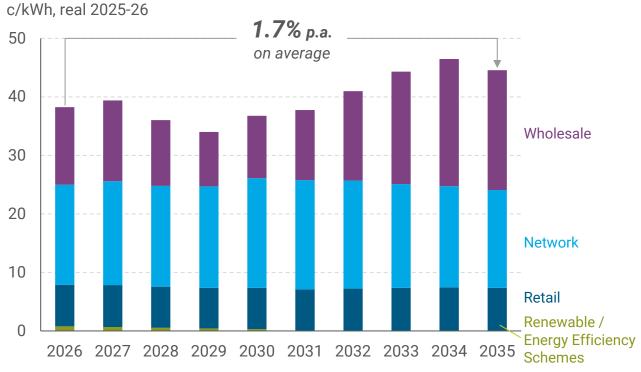
Renewable / energy efficiency schemes costs

Falling in line with national trends

Queensland prices are projected to rise towards the end of our outlook period

Wholesale prices are projected to rise significantly over the second half of the outlook

Residential electricity price outlook



For QLD, we project wholesale prices to rise after 2030 driven by a:

- Drop in coal capacity over 6 GW in four years, based on the 2024 ISP's retirement schedule. Note that our outlook does not incorporate Oct 2025 announcements from the Queensland Government and Rio Tinto about the life of coal-fired power stations. For Gladstone power station, the revised retirement date is broadly consistent with the progressive retirement over 2027 to 2031 in the 2024 ISP.
- Slower build-out of new renewables, relative to what was projected in the 2024 ISP.
- Delay of the 2 GW Borumba pumped hydro project to FY36, which is beyond our outlook period.
- Projected constraint on gas availability, putting further pressure on prices at the end of the outlook period.

Wholesale costs

Rising after 2030, with a tightening supply-demand gap as coal plants retire before Borumba pumped hydro gets built

Network costs

Broadly stable over the horizon. A small rise in transmission costs is offset by a reduction in jurisdictional scheme costs.

Retail costs

Stable over the horizon

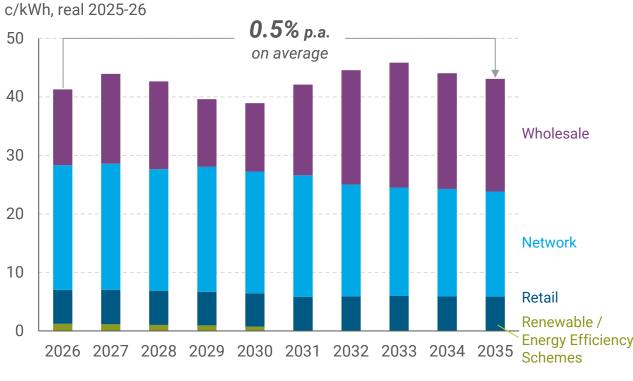
Renewable / energy efficiency schemes costs

Falling to zero as existing schemes expire

South Australian prices are projected to be broadly stable over the outlook

An increase in wholesale prices is offset by a reduction in network costs

Residential electricity price outlook



SA wholesale prices broadly follow national trends, falling in the middle of the horizon as the CIS is projected to bring online more grid scale batteries which smooth out demand.

However, wholesale costs remain relatively high partly owing to higher contracting costs. These costs could potentially be reduced as Project Energy Connect increases interconnection with NSW from 2027. However, our modelling assumed this contracting 'premium' remains constant over the outlook due to limited information.

Network costs are projected to decline, due to an increase in demand and a reduction in jurisdictional scheme costs. These projections do not include Firm Energy Reliability Mechanism (FERM) costs – which are recovered through transmission charges – as auction results are currently unavailable.

Our demand projections are based on AEMO's latest step change projections. We note that the <u>SA Electricity Development Plan</u>, released in December 2024, projects a significantly faster rate of demand growth, which would impact the price outlook.

Wholesale costs

Dropping toward the middle of our outlook as grid scale batteries come online, before rising towards the end of the horizon, following national trends

Network costs

Decreasing slightly due to an increase in demand and the end of existing jurisdictional schemes recovered through network costs.

Retail costs

Stable over the horizon

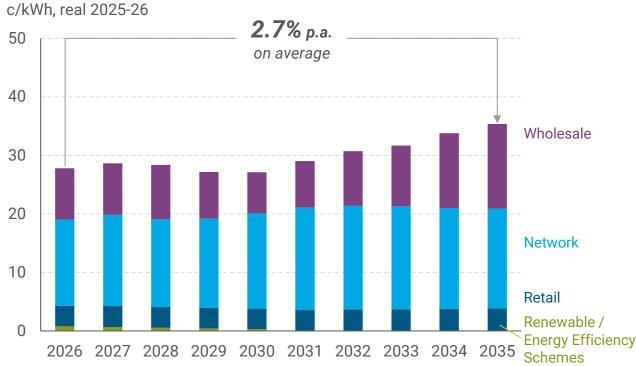
Renewable / energy efficiency schemes costs

Falling to zero as existing schemes expire

Tasmanian prices are projected to rise over the second half of the horizon

An increase in wholesale and transmission costs place upward pressure on prices

Residential electricity price outlook



For Tasmania, we project:

- Upward pressure on prices beyond 2030, although prices are projected to still remain below the NEM average.
- Transmission costs to rise. We assume Basslink is converted to a regulated interconnector in our modelling. Our updated costs for Marinus Link include concessional finance benefits, and a 27.6% share of remaining costs to be borne by Tasmania. We did not account for any concessional finance or other benefits for other network projects in Tasmania.
- Distribution costs to remain steady over the outlook.

Importantly, our Tasmanian projections are slightly overestimated due to information gaps. Our modelling is unable to fully capture the benefits of Basslink's conversion. The Settlement Residue revenue for Basslink is unknown, as the capacity auctions have not yet been held.

Wholesale costs

Rising over the outlook and becoming more aligned with Victorian prices

Network costs

Rising due to an increase in transmission costs, as updated costs for Basslink and Marinus Link are incorporated to the outlook

Retail costs

Increasing slightly over the horizon

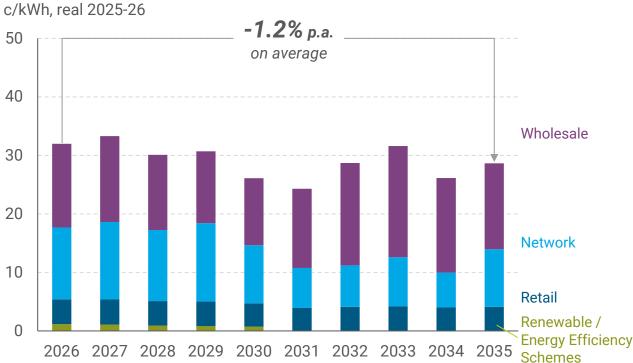
Renewable / energy efficiency schemes costs

Falling to zero as existing schemes expire

ACT prices are projected to decline over the outlook

Wholesale prices are projected to mirror NSW trends, with the ACT large FiT reducing network prices

Residential electricity price outlook



For ACT, we project:

- Prices to decline, in contrast to the national trend.
- Wholesale prices to remain broadly stable over the outlook, largely following NSW prices, as wholesale spot prices are same across the two jurisdictions.
- Network costs to fall, driving a price reduction. This mainly reflects the ACT Large Feed-in-Tariff (FiT) scheme, which counters movements in wholesale prices, and is passed on through network costs. Under this scheme, when wholesale prices are low, generators are paid additional revenue through network charges, but when they are high, some of this revenue is returned to customers through lower network costs. And as wholesale prices are projected to be higher in nominal terms, by the end of the horizon, this contributes to an overall drop in real (inflation adjusted) prices.

Wholesale costs

Broadly stable, following the NSW trend as spot wholesale prices are the same in the two jurisdictions.

Network costs

Falling with annual movements mostly reflecting the ACT Large Feed-in-Tariff (FiT) scheme

Retail costs

Stable over the horizon

Renewable / energy efficiency schemes costs

Falling to zero as existing schemes expire

RESIDENTIAL ELECTRICITY PRICE TRENDS 2025

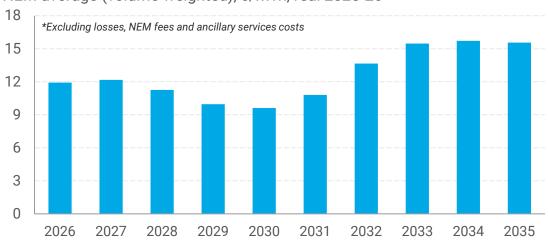
8 Electricity price cost components

Analyses the movements in cost components, under the base case and the scenarios

Wholesale costs are projected to fall initially, but rise toward the end of the horizon as demand increases and supply conditions tighten

Wholesale costs (hedged)*

NEM average (volume weighted), c/kWh, real 2025-26



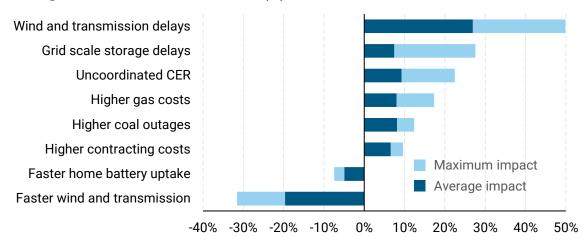
Wholesale costs are projected to rise about 30% over the horizon

- Costs initially drop toward 2030 as new renewable energy generation comes online to meet policy targets, including the CIS and state renewable energy targets
- Costs then begin to rise thereafter as renewable supply growth does not keep pace with electrification demand as coal plants retire, tightening the supply-demand balance and leading to higher cost generators setting price more frequently

Year to year volatility in wholesale spot prices are smoothed by our contracting model, which builds out a contracting book over 36 months to hedge costs and protect against price spikes.

Wholesale costs (hedged) - scenario analysis

Change relative to base case costs (%)

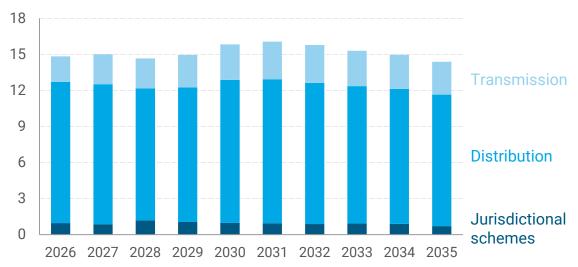


- Wind and transmission delays show the biggest impact on wholesale prices, similar to our 2024 report
- Storage delays had the second largest impact on wholesale prices, demonstrating the importance of both short and long duration storage for firming in future
- New scenarios on higher gas costs, coal outages and contracting costs show a relatively smaller impact than other scenarios, but they could still increase prices by 10-16% in any given year

Network costs are projected to be broadly stable over the outlook

Network cost components (excluding metering)

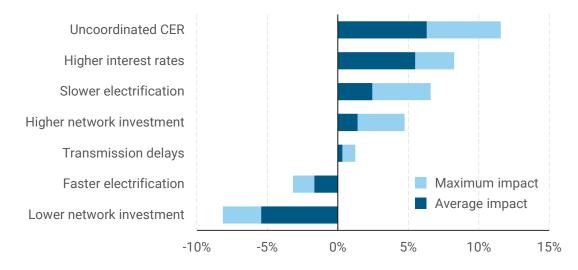
c/kWh, real 2025-26



- Network prices are projected to be broadly flat over the outlook.
 Increase in transmission and distribution expenditure is offset by a modest rise in residential demand and a reduction in jurisdictional scheme costs.
- Despite a significant transmission buildout during our outlook, the impact on residential prices is reduced because transmission costs are only a small share of residential electricity prices.
- NSW electricity roadmap costs are the largest jurisdictional scheme cost. These projections are lower than in 2024 because our projected increase in wholesale costs reduces the costs of Long-Term Energy Service Agreements (LTESAs) recovered through network charges.

Network costs - scenario analysis

Change relative to base case costs (%)

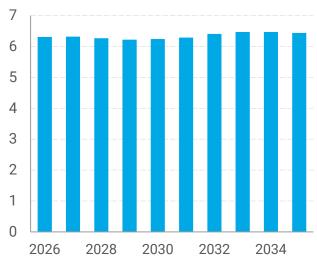


- Uncoordinated CER shows the largest impact on network prices by increasing peak demand, which drives additional network investment, despite no additional electricity consumption over the year.
- By contrast, a faster rate of electrification would have a smaller impact on network prices because an increase in consumption offsets the additional investment required, keeping per unit costs broadly unchanged.
- The network interest rate scenarios highlight the sensitivity of network prices to changes in interest rates.

Retail and metering costs are projected to remain stable while renewable and energy efficiency schemes costs are projected to fall

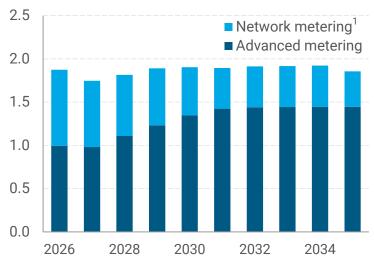
Retail costs

c/kWh, real 2025-26

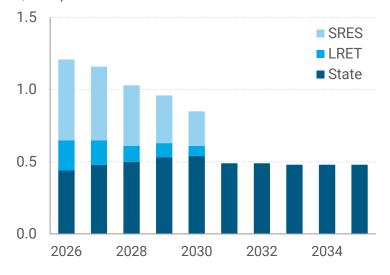


Metering costs

c/kWh, real 2025-26



Renewable/energy efficiency scheme costs c/kWh, real 2025-26



Retail costs include:

- Operating costs
- Provisions for bad / doubtful debt
- Retail margins

These costs are projected to be broadly stable over the horizon.

- Metering cost projections include smart meter roll-out by 2030.
- While costs are projected to increase slightly initially, as legacy accumulation meters get replaced, these are stable over the horizon.
- Coordinated smart meter roll-out would have a wider range of benefits to support an effective CER use.

Renewable / energy efficiency schemes include:

- Small-scale Renewable Energy Scheme (SRES)
- Large-scale Renewable Energy Target (LRET)
- Other state-based schemes

These costs are projected to fall as several schemes are set to expire in 2030.

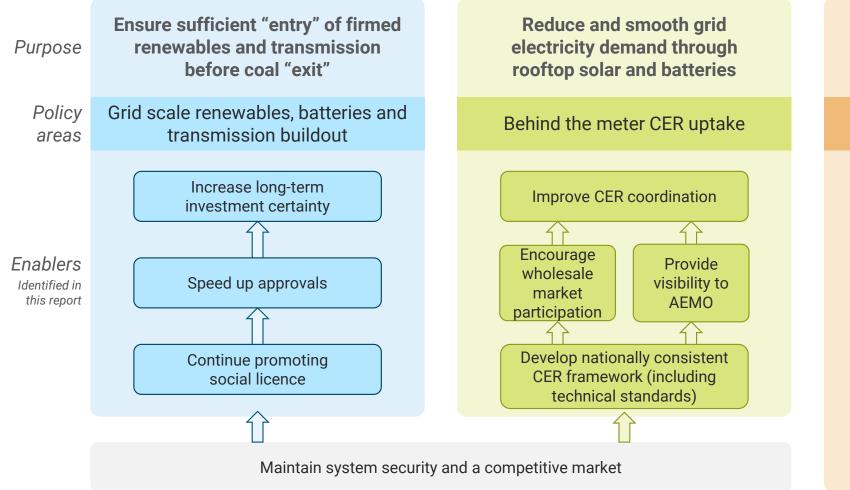
Potential future Renewable Electricity Guarantee of Origin (GO) scheme costs were not modelled.

RESIDENTIAL ELECTRICITY PRICE TRENDS 2025

Policy implications

Outlines the actions that could lower household electricity and energy costs, and ensure an equitable energy transition for consumers

Price Trends highlights three areas to promote more affordable energy for all households



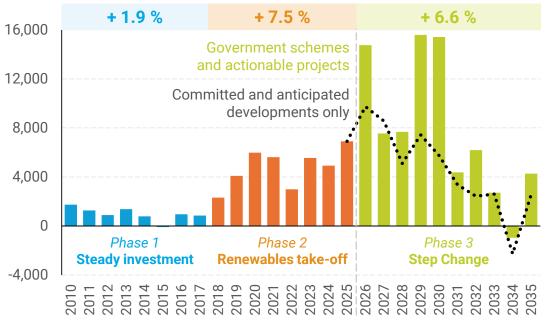
Lower residential energy costs and emissions by electrifying gas and switching to EVs Residential electrification Address barriers to residential electrification Empower consumer choice with better suited products Provide consumers with information to support longterm energy decisions Efficient price signals for gas and electricity

Reduce barriers to investment to deliver a rapid and cost-effective buildout of renewables and transmission

Change in installed NEM generation capacity

MW, including rooftop PV





Sources: AEMO 2024 Final ISP Step Change for data to 2021, AEMO 2025 ESOO Summary development outlook for data 2022 onwards.

A rapid and cost-effective buildout of renewables, batteries and transmission is needed for affordable electricity prices. Our scenarios show that delays to investment in these critical resources would put upward pressure on prices.

While AEMC analysis shows the investment pipeline remains healthy, the rate at which announced projects move to commissioning is low and poses risks to the system. To address this, we need to:

Ensure sufficient entry before exit by promoting investment certainty
Progressing the recommendations of the <u>NEM Review Panel</u> would ensure
there is a mechanism to allow new investment to capture market signals.

Speed up the delivery of new generation with faster approvals

Actioning the recommendations of the <u>Productivity Commission</u> could help expedite approvals for renewables and better protect the environment. The AEMC has shown that consistent and effective <u>Renewable Energy Zone (REZ) frameworks</u> can reduce barriers to investment by providing locational signals, and investment certainty with improved access to the grid.

Continue promoting social licence to accelerate the build-out of transmission The AEMC has made rule changes, and the Commonwealth Government has developed <u>national guidelines</u> and is currently piloting a <u>Developer Rating Scheme</u> to support electricity networks and developers to build social licence for new transmission projects.

Maintain system security to ensure a reliable grid

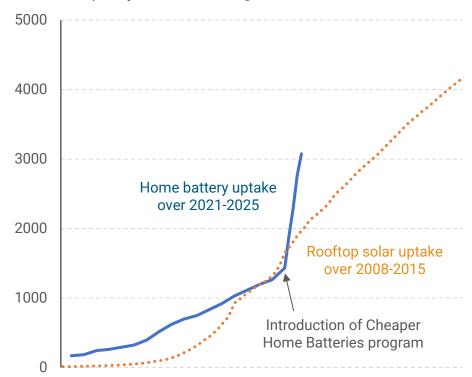
The AEMC's access standards rule changes are streamlining the connection process and clarifying the obligations on connecting parties to maintain system security. They support a broader program of work, involving collaboration between AEMO and the Commonwealth, to ensure system security through the transition.

Consumer Energy Resources could lower costs for all consumers

Ensuring all households can electrify requires addressing the barriers faced by individual consumers

Historical uptake of Consumer Energy Resources

Installed capacity across NEM regions, MW



Sources: AEMO; Clean Energy Regulator

A well-managed uptake of CER can reduce costs for all consumers

A broad-based uptake of CER reduces the energy costs for households who purchase these assets, and it lowers costs for all consumers by avoiding the need for additional network investment and reducing the risk of wholesale price spikes if well coordinated. A coordinated use of CER by households could be promoted by:

- Increasing the visibility of these resources to the market operator, AEMO, as recommended by the NEM Expert Panel.
- Incentives for these investments to be more price-responsive. Reforms to network and retail pricing, that we are developing in the Pricing Review, would complement these incentives by providing consumers with more efficient price signals.

This would harness behind-the-meter resources to boost wholesale market competition.

Ensure the broadest spectrum of households can electrify

The continued uptake of rooftop solar shows households continue to embrace clean energy, even with reducing Government subsidies. The uptake of home batteries provides an opportunity for more coordinated demand side resources.

As households with solar, batteries, and other CER are projected to enjoy lower costs, ensuring all households have options to electrify requires addressing the varied barriers that face individual consumers. These include, but are not be limited to, being able to afford to electrify.

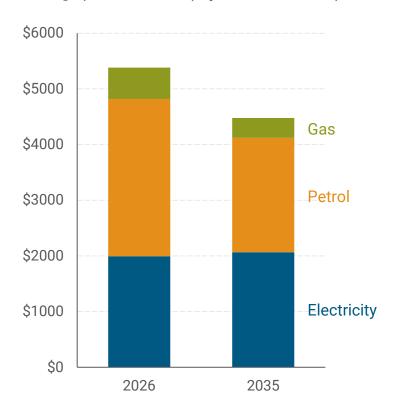
A nationally consistent framework for CER

A nationally consistent technical regulatory framework for CER, through the Commonwealth Government's CER Taskforce, is essential so that consumers and industry have the information they need to maximise the scope for new technologies to support the grid and ensure the benefits flow-on to consumers.

The right price signals are needed to support lower household energy costs

Making the best use of, and supporting, a rapid uptake of low-cost renewable power

NEM average household energy costs Average per household (\$/year, real 2025-26)



Our analysis shows that energy costs are lower for households who purchase an EV or switch off gas appliances.

Consumers need the right price signals to provide them with confidence to make long-term decisions about whether and when to electrify their appliances or vehicles. The AEMC is looking at how retail gas services should be charged. We recently made draft rules to introduce efficient charges upfront to <u>connect</u> to and <u>disconnect</u> from the gas network.

Getting this right also requires consumers to have access to the right range of products and services which give them meaningful choices in how they consume electricity from the grid. The AEMC's <u>pricing review</u> is examining how retail markets and network pricing can better meet consumer preferences, now and into the future, to deliver a lower-cost power system for all consumers.

Electrification, with effective price signals, will allow consumers to make the best use of, and support, the rapid uptake of low-cost renewables that we need to keep electricity prices affordable.

In addition, the AEMC's <u>strategic vision</u> highlights that an equitable and consumer-focused net zero transition also requires a system where consumers have:

- Clear information to support long-term investment decisions
- Meaningful choices in whether and how they participate in the market, and that they can benefit without having to actively engage in the market
- Equitable outcomes regardless of their energy choices

Information

Inquiries

Australian Energy Market Commission Level 15, 60 Castlereagh Street, Sydney NSW 2000

E: aemc@aemc.gov.au

T: (02) 8296 7800

Reference: RPR0018

About the AEMC

The AEMC reports to the energy ministers. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the energy ministers.

Acknowledgement of Country

The AEMC acknowledges and shows respect for the Traditional Custodians of the many different lands across Australia on which we live and work. The AEMC office is located on the land of the Gadigal people of the Eora nation. We pay respect to all Elders past and present, and to the enduring connection of Aboriginal and Torres Strait Islander peoples to Country.

Copyright

This work is copyright. The Copyright Act 1968 (Cth) permits fair dealing for study, research, news reporting, criticism and review. You may reproduce selected passages, tables or diagrams for these purposes provided you acknowledge the source.

Citation

To cite this document, please use the following: AEMC, Residential Electricity Price Trends 2025, 4 December 2025

