AUSTRALIAN COMPETITION & CONSUMER COMMISSION

Inquiry into the National Electricity Market

July 2025 Report

10 July 2025

Acknowledgment of country

The ACCC acknowledges the traditional owners and custodians of Country throughout Australia and recognises their continuing connection to the land, sea and community. We pay our respects to them and their cultures; and to their Elders past, present and future.

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ACCC 07/25_25–41
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Executive Summary

Australian consumers are investing in solar and home batteries at pace, bolstered by state and federal government incentives. Customers with solar and battery systems have lower bills, with even lower bills for those participating in virtual power plants. Government rebates are also having a positive impact on affordability, lowering residential bills in all regions.

There are positive signs for competition in the emerging market in which virtual power plant services are supplied. We observe substantial product differentiation, as well as newer and smaller energy service providers playing a role in supplying virtual power plant services, involving the coordination of consumer batteries.

Coordination of consumer batteries involves operators remotely aggregating the solar and battery systems of customers who have given up an element of control over their assets. This provides broader benefits to the energy system and is an important part of Australia's energy transition.

Additional incentives to support consumers making investments in solar and batteries were introduced on 1 July 2025. In an environment of increased uptake of consumer energy resources, it is critical that consumers receive clear and accurate information and there are strong incentives for sellers to comply with their Australian Consumer Law obligations.

The ACCC will pay close attention to consumer complaints and conduct by battery installers, retailers and all supply chain participants to ensure they are compliant with the Australian Consumer Law and that the process of competition occurs on a level playing field. However, more may be needed to realise the potential system benefits from these consumer investments. These issues are presently being considered by policy makers and can be informed by the matters set out in this report.

A consumer centric approach to policy making would support efficient consumer investment and market integration:

- On the supply side, effective competition between virtual power plant providers will ensure the benefits of coordination are passed on to consumers. Competition should also be central to reforms aimed to unlock new value streams from coordination.
- On the demand side, competition will be promoted if consumers are able to confidently engage in these emerging markets with appropriate guardrails in place.

Annual bills have risen, but government rebates have helped

When measured on an *annualised* basis, which smooths out any short-term impacts on bills, household electricity bills in the year to quarter 3 2024 rose in New South Wales (2%), Victoria (5%), and South Australia (6%). However, bills fell sharply in South East Queensland (by 85%), largely the result of Queensland's $1,000 Cost of Living rebate, which was paid to all households as a lump sum in July 2024.

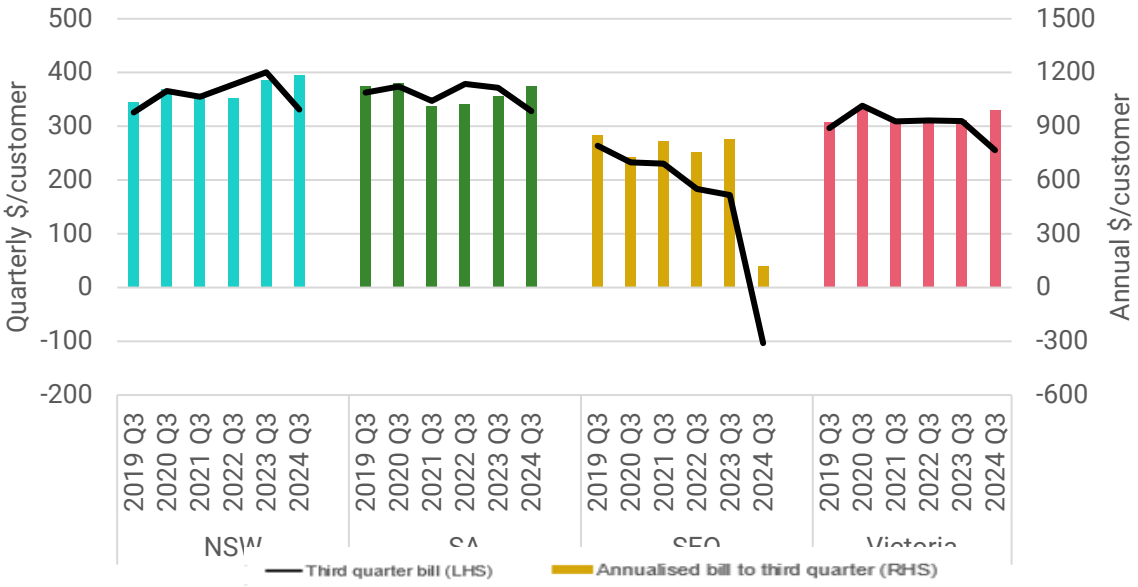
Government rebates have helped reduce electricity bills paid by consumers across all regions. The first $75 per quarter instalment of the Australian Government's expanded Energy Bill Relief Fund 2024–25 was paid to all households in the third quarter 2024. Across the National Electricity Market, the median *quarterly* bill for residential customers was 21%

lower in quarter 3 2024 compared to the same period a year earlier, in nominal terms. The sharpest decline was recorded in South East Queensland, where rebates exceeded the median bill amount due to the Cost of Living rebate.

Although rebates helped provide bill relief, many customers remain on hardship and/or payment plans. Customers with a concession typically pay much lower bills than customers without.[1] Recent data from the Australian Energy Regulator shows that the number of customers on hardship programs and payment plans both declined in the year to December quarter 2024, with retailers attributing this in part to the impact of government rebates. However, disconnection rates in the December quarter 2024 were higher than a year earlier.[2]

Annualised bills rose slightly in New South Wales, Victoria and South Australia but fell sharply in South East Queensland

Median bills paid by residential customers, by region, annualised and quarter 3, 2019 to 2024



Source: ACCC analysis of retailer data.

The number of solar customers and customers on time of use and demand tariffs grows

The number of customers on time of use tariffs continued to grow in New South Wales, South Australia, and Victoria, while demand tariffs remained more common in South East Queensland. As of 2023–24, 19% of residential customers across the National Electricity Market were on time of use tariffs, up from 17% in 2022–23. South Australia lead, with over 35% of customers on time-of-use tariffs. Demand tariff customers also increased from 4% to 5% over the same period.

The shift to time of use and demand tariffs is driven by regulatory reforms and, in practice, consumers are often migrated to an underlying time of use or demand tariff at the network level upon the installation of a smart meter. These tariffs are intended to provide price signals to encourage customers to shift usage to off-peak times or better manage peak

1 A concession customer is defined as a person meeting certain eligibility criteria which entitles them to a concession (for example, holding a relevant concession card), as distinct from a broad-based rebate available to all consumers.

2 Australian Energy Regulator, Quarterly retail performance report, October – December 2024, March 2025, pp 9-10, 14.

demand. In November 2024, the Australian Energy Market Commission strengthened safeguards to protect consumers from related changes to retail tariff structures, arising from smart meter installations.[3]

The adoption of solar energy continued to rise, as households chose renewable solar energy in line with environmental concerns and in pursuit of lower bills and greater energy independence. Around 40% of households in South Australia and South East Queensland had solar in 2023–24 and around 20% in Victoria and NSW in the same period. Across the NEM, solar uptake has increased from 17% to 27% of households over the past 4 years.

Our analysis shows that solar customers consistently have lower bills, about 18% less than non-solar customers, even though they consume more electricity from the grid. Customers with solar and battery systems pay even lower bills, about 40% less than non-solar customers.

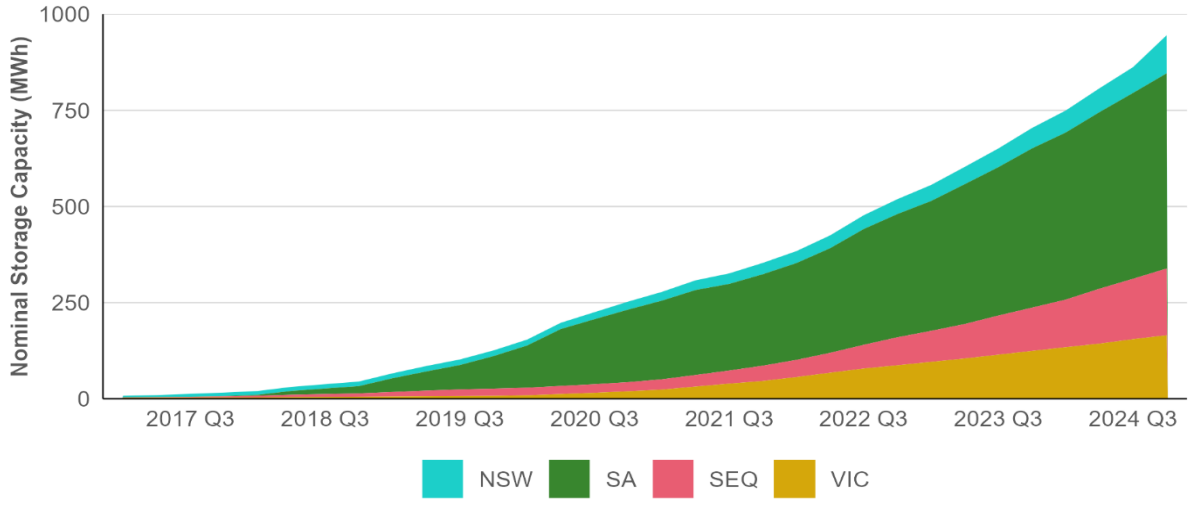
We observe innovation in emerging new energy service markets

New energy services are an emerging feature of the electricity sector, rapidly growing in size and importance. To provide transparency over the costs and benefits associated with participating in new energy services, we have examined competition and consumer outcomes in relation to behavioural demand response programs, electric vehicle tariffs and virtual power plants.

We observe significant increases in the number of customers on behavioural demand response programs and electric vehicle tariffs in recent years. Similarly, we see rapidly growing numbers of virtual power plant customers, enabled by a 73% increase in installed battery storage capacity connected to the grid in New South Wales, South Australia, Victoria and South East Queensland.

The growth of battery installations increases our collective storage capacity

Cumulative nominal storage capacity (MWh) for home battery installations



Source: ACCC analysis of AEMO distributed energy resources register data.

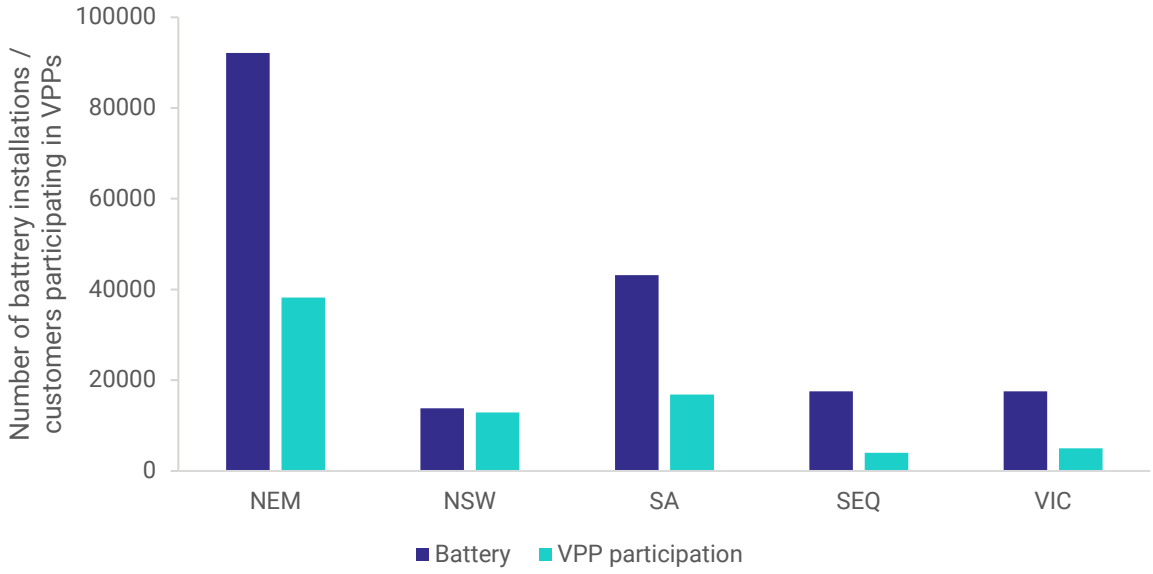
[3] Australian Energy Market Commission (AEMC), *Accelerating smart meter deployment*, AEMC, 28 November 2024, accessed 14 May 2025.

There are signs of stronger competition in the emerging market in which virtual power plant services are supplied, with over 75% of customers we identified being served by smaller providers. This is in stark contrast to the traditional retail electricity market where the big 3 retailers (AGL, Origin and EnergyAustralia) currently serve approximately 62% of consumers. We also observed signs of innovation and product differentiation, with providers offering plans with varying levels of complexity to serve different types of consumers.

The take up of electric vehicle tariffs is also increasing, although other charging options are available and consumers have the ability to charge using existing retail tariffs . As such, customers are less reliant on dedicated electric vehicle tariffs to see the benefits from an investment in an electric vehicle if they effectively manage their vehicle's charging needs. The majority of residential electric vehicle tariff customers are served by the big 3 retailers, as is the case for behavioural demand response programs, though we observed some product differentiation for these services.

Rates of virtual power plant uptake vary by state, but nationally, participation lags total batteries installed

Comparison of battery installations and virtual power plant participation rates by region, as at 2 January 2025



Source: ACCC analysis of retailers' billing data, survey data and AEMO DER data.

We see a significant gap between the number of consumers with an installed battery and those participating in a virtual power plant, and a similar gap between the number of electric vehicles and customers on electric vehicle tariffs. This may represent unrealised potential for customers to leverage their consumer energy resources to their financial advantage and provide greater system-wide benefits.

In New South Wales, separate incentives have until recently rewarded both investing in a battery and participating in a virtual power plant. Results here suggest it is possible for governments to design subsidy schemes that incrementally reward contributions to broader government policy objectives, such as delivering overall system benefits.

Where governments seek to provide battery subsidies, the ACCC supports these being proportional to the level of system benefit provided, recognising that having a battery

provides both consumer and wider system benefits, and that coordination, for those consumers who wish to participate, delivers even greater system benefits.

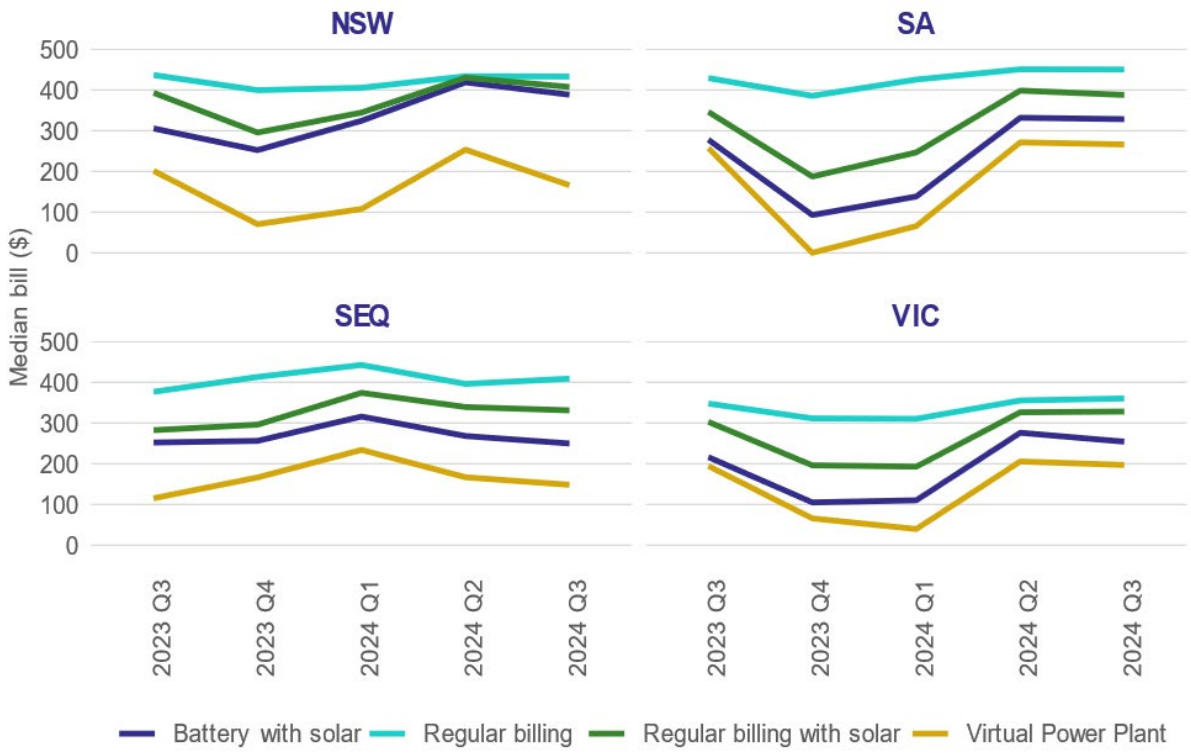
Customers with solar and batteries pay lower bills, and virtual power plant customers pay lower still

The billing outcomes for customers with a combined solar and battery system are compelling. Like customers with just solar, they can self-consume energy generated by their system, but the addition of a battery also allows them to store the energy they generate and move their grid use to times where prices are lower. Our analysis shows that consumers with a combined solar and battery system have lower bills than both regular customers and customers with just solar.

However, for consumers with a solar and battery system, there may be additional benefits available to them from participating in a virtual power plant. We saw the credits associated with the plans lowering virtual power plant customer bills even further. While the virtual power plant credit is a positive outcome for customers, based on our analysis, we consider the ability to self-consume and shift usage has a more significant impact on bills than the currently offered credits.

Virtual power plant customers pay lower bills across all regions

Median bills paid by virtual power plant and battery customers, by region, quarter 3 of 2023 to quarter 3 of 2024



Source: ACCC analysis of retailers' and AEMO DER data.

While customers using an electric vehicle tariff had higher energy use than other customers as a result of charging their vehicles at home, billing outcomes were better for those who

also had solar. Customers with an electric vehicle tariff and solar had median quarterly bills broadly similar to regular customers with solar. Electric vehicle tariff customers without solar experienced bills that ranged between 25% and 69% higher than electric vehicle tariff customers with solar installed.

Importantly, most of the additional usage for customers on electric vehicle tariffs came during off-peak and super off-peak times when electricity is cheapest (resulting in low 'per unit' electricity costs for these customers). While electric vehicle owners' electricity use increases, their overall energy costs are likely to decrease as a result of avoiding petrol costs.

We also found that the financial rewards for participating in a behavioural demand response program were limited. The median annual value of behavioural demand response credits among those who received a bill credit for participating was $5.86 per customer, which is less than 1% of the median annual bill. These results raise the question of whether the modest rewards for participating in these programs are adequate to incentivise consumer participation.

Policy settings that promote competition and consumer protection will support uptake

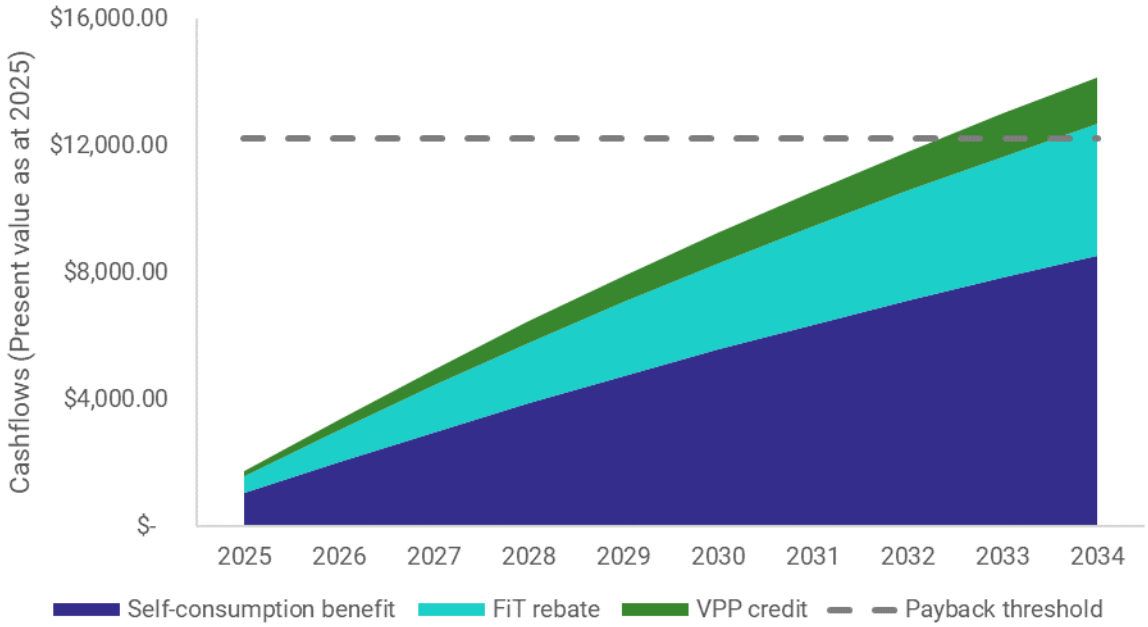
Combined solar and battery systems are a significant investment. Customers may incur upfront costs of around $20,800 before subsidies to obtain the most popular solar and battery systems. More customers will make the investment if they have confidence that their savings on electricity bills will exceed, or at least equal, their upfront costs. Participation in virtual power plants can also assist customers in recovering their upfront costs.

To illustrate the potential payback period, we conducted a case study based on a representative customer in Victoria who purchases a combined solar and battery system using a number of assumptions, including inputs from our billing data. We found that a representative customer participating in a virtual power plant could pay off their combined solar and battery system costs in roughly 8.5 years, rather than 9.5 years if not participating in a virtual power plant. Both payback periods are within the 10-year battery warranty period. The actual payback period for a customer investing in consumer energy resources will vary depending on a range of factors for each household, such as battery and solar system size, solar intensity, household consumption and the availability of subsidies in their region.[4]

[4] We provide more detail on our payback period analysis in Chapter 3 and our methodology in Appendix A.

Participating in a virtual power plant sees our representative customer payback their system within 10-years

Cumulative cashflows for our representative customer who uses their solar and battery system to participate in a virtual power plant over a 10-year period, 2025 to 2034, Victoria



Source: ACCC analysis of cashflows based on retailer billing data, AEMO Distributed Energy Resource register information, AEMO customer load profiles, CER Quarterly Carbon Market Reports and Bureau of Meteorology solar intensity data.

Note: Annual cashflows have been discounted at a rate of 5%.

Self-consumption is currently the largest source of financial value for customers that invest in combined solar and battery systems, with additional benefit arising from virtual power plant participation credits. Virtual power plant operators are currently utilising a small proportion of the power they are contractually able to, and so have the ability to dispatch more power from customer assets than they are currently. If the amount of power dispatched was to materially increase, the calculated benefits to consumers from self-consumption could reduce.

The Australian Energy Market Commission has found actively operating flexible consumer energy resources could result in $45 billion worth of system benefits in net present value terms by 2050. Most of these system benefits are derived from using residential consumer energy resources, and in particular household batteries, more flexibly.

Retailers operating virtual power plants are currently able to benefit from coordinating consumer batteries to provide services to retail, wholesale and ancillary service markets. By participating in virtual power plants, customers can receive rewards for the services their assets provide to the broader system.

Effective competition among virtual power plant operators is important to reward consumers for their solar and battery investments. Effective competition incentivises operators to:

- pass on the benefits they receive from control of solar and battery systems to consumers
- engage in innovation and design better product offerings.

Competition should also be central to reforms aimed to unlock new value streams from coordination of batteries and the sharing of benefits with consumers.

Supply and demand side reforms are currently being considered through the roadmap of reforms to better integrate consumer energy resources into the National Electricity Market. The Department of Climate Change, Energy, the Environment and Water has recently released a discussion paper on, *Redefining roles and responsibilities for power system and market operations in a high CER future*, July 2025.

The ACCC continues to support markets being used as the mechanism to coordinate the delivery of system services. We encourage policy makers, as they consider the future role of Distribution Network System Providers and the potential formalisation of a Distribution System Operator model, to consider operating principles for Distribution System Operators that facilitate competition.

Ensuring the right policy settings are in place will support efficient take up and promote integration of consumer energy resources into the National Electricity Market to deliver system wide benefits. Competition and consumer guardrails should be central to reforms aimed to unlock new value streams from coordination:

- on the supply side, effective competition between virtual power plant providers will ensure the benefits of coordination are passed on to consumers. Competition should also be central to reforms aimed to unlock new value streams from coordination
- on the demand side, competition will be promoted if consumers are able to confidently engage in these emerging markets with appropriate guardrails in place.

Consumer settings for new energy services

The Australian Energy Regulator has identified gaps in the current energy specific consumer protection framework and the Department of Climate Change, Energy and the Environment is reviewing existing, emerging and future issues related to consumers' access to energy. The review will include assessing the role of an overarching consumer duty, and more generally the role that principles-based regulation could play, in addressing systemic consumer issues in the energy market, alongside providing flexibility to future-proof the framework to address unforeseen consumer risks arising in the future.[5]

We support the development of an overarching consumer duty for current and future energy services as well as further consideration by government of how it would interact with the National Energy Customer Framework and the Australian Consumer Law.

To assist policymakers, we have highlighted challenges relating to new energy services that a new energy-specific consumer protection framework would need to address. While there is a spectrum of interventions open to policymakers, we have identified 7 challenges relating to consumer participation in new energy services:

- increasing product complexity
- multiple supply chain participants make resolving responsibility difficult, especially in the long-term
- relinquishing some control to virtual power plant providers
- lack of clarity about who benefits from use of the virtual power plant investment

[5] Energy and Climate Change Ministerial Council, *Consultation paper – Better Energy Customer Experiences*, Energy and Climate Change Ministerial Council, Australian Government, April 2025, p 7.

- maintaining certainty and confidence in investment when terms can change
- limiting the potential for early contract termination to exacerbate financial hardship
- ensuring adequate consumer safeguards around subsidy schemes.

We have identified these challenges through our analysis of customer contracts and the ACCC's experience as the national competition, consumer, fair trading and product safety regulator.

To understand current and emerging risks for consumers of new energy services we analysed customer offers for: behavioural demand response programs, electric vehicle tariffs and virtual power plants. We found risks were lower for offers where consumers had more control, with shorter contract terms and limited lock-in fees. However, risks increase where providers have scope to exert greater control, with the potential to affect household usage (and the benefits associated with self-consumption) and control appliances. Addressing these risks is particularly important where the combination of subsidies and sales incentives can also lead to poor consumer outcomes.

Our illustrative modelling also highlights the importance of consumers receiving accurate information to support complex investment decisions which are influenced by a range of factors, such as: household consumption profile, solar intensity, and solar and battery system size.

We consider that in order to achieve the maximum level of participation by consumers in energy markets, including markets for new energy services, energy-specific consumer protections should oblige energy service providers to:

- ensure consumers are no worse off and are fairly rewarded
- protect the investments made by consumers in energy assets
- set guardrails to protect consumers where external control is contemplated
- design and distribute energy offers in a consumer-centric way.

1. Introduction

In 2018, the Australian Government directed the Australian Competition and Consumer Commission (ACCC) to hold a public inquiry into the prices, profits and margins in the supply of electricity in the National Electricity Market (NEM) pursuant to subsection 95H(1) of the *Competition and Consumer Act 2010*.

The inquiry monitors and reports on the supply of retail and wholesale electricity in the NEM as the market underwent a significant period of transition over the inquiry period to 2025. The inquiry was to conclude with a final report from the ACCC by 31 August 2025. On 23 March 2025, the Australian Government announced a 12-month extension to the inquiry.[6]

Under the current terms of reference for the inquiry, the ACCC has a broad-ranging responsibility to monitor a range of matters in relation to the supply of electricity in the NEM, including electricity prices faced by customers and the effects of policy changes including those resulting from the recommendations in the ACCC's Retail Electricity Pricing Inquiry Report of July 2018. Where appropriate, the ACCC will make recommendations to government(s) on necessary actions and regulatory changes to deliver competitive and efficient electricity prices for customers.[7]

The ACCC must report to the Treasurer at least every 6 months. In recent years, we have adopted a cycle of reporting on billing outcomes for households and small business customers in the first half of each year, and retailers' costs in supplying electricity to customers (or 'cost stack') information in the latter half of each year. In this report, we have continued our analysis of customer bills, usage, unit prices and the effect of government rebates.

For the first time, we have undertaken analysis of customer outcomes and competition for new energy services. Although new energy services comprise only a small part of the retail electricity market, there has been rapid growth in these products over time and they represent an important part of the energy transition.

1.1 Our role in electricity markets

The ACCC's role in electricity markets is set out in the *Competition and Consumer Act* 2010, which aims to enhance the welfare of Australians through the promotion of competition and fair trading and the provision of customer protections.

This inquiry is conducted under the price inquiry provisions of Part VIIA of the *Competition and Consumer Act 2010*. The ACCC also enforces compliance with the Australian Consumer Law under the *Competition and Consumer Act 2010.* The ACCC regulates industry codes of conduct that are prescribed by law, including the Electricity Retail Code.[8] The Electricity Retail Code is a mandatory industry code which came into force on 1 July 2019. It imposes several requirements on electricity retailers, namely a cap on standing offer prices, and requirements on how retailers must communicate their prices and advertise conditional discounts.

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6 *Joint media release: More energy bill relief for every Australian household and for small business | Ministers*, 23 March 2025.

7 See Appendix D: Terms of reference.

8 Australian Competition and Consumer Commission (ACCC), Electricity Retail Code.

The *Competition and Consumer Act 2010* includes general prohibitions on anti-competitive conduct under Part IV and specific provisions under Part XICA particularly concerned with prohibiting conduct in the energy market, including a requirement on retailers to make reasonable adjustments to their prices to reflect cost reductions.[9] The ACCC is also empowered to monitor and protect competition in markets and to take action to ensure customers are treated fairly.

1.2. The retail market is evolving

The NEM is a wholesale electricity market and physical power system connecting New South Wales, the Australian Capital Territory, Queensland, South Australia, Victoria and Tasmania. It has facilitated the trading of electricity between generators, retailers and large-scale consumers since 1998.

The NEM originally relied on large, centrally located thermal generators to produce electricity and one-way electricity flow from generator to consumers. It is now transitioning towards a dynamic model where there is diverse and dispersed energy generation with an increasing reliance on renewable energy, and two-way electricity flows and a greater role for consumers in the market. This shift in market structure and towards a low-emissions generation mix is known as the 'energy transition'.

Many factors are driving the evolution of the NEM including environmental policies to reduce greenhouse gas emissions, technology advancements that bring new opportunities in services and products, and the ageing nature of traditional generation assets limiting their ability to continue to reliably meet demands placed on it.

1.2.1. The role of retailers and customers is changing

Traditionally, retailers have been the bridge between the wholesale market where generators supply electricity and the end user (that is, a household or business). Uncertainty and variation in the wholesale spot price creates a risk for retailers facing high prices.

Retailers often engage with volatility and risk when purchasing wholesale electricity, by entering into hedging contracts with generators. This allows retailers to offer their customers set prices that are less volatile than wholesale prices while charging a retail margin. Offering stable and transparent prices to customers creates certainty and is necessary for retailers to attract and retain customers and to meet regulatory obligations in some regions.[10] As part of the energy transition, the roles of the retailer and the consumer are changing rapidly, along with the mix of energy services in the market.

Consumers are becoming increasingly active participants in the NEM. Many consumers are becoming more informed about their energy options, their consumption and how to reduce their bills. These customers seek more autonomy and are taking control and managing their energy use. As part of this, we observe that some consumers are steadily embracing consumer energy resources and in doing so, incentivising the market to be innovative with new offerings to capture and coordinate them.

Consumer energy resources are typically the hardware located at a customer's premises and include solar and battery systems along with electric vehicles. New energy services make

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9 *Competition and Consumer Act 2010* pt XICA.

10 See Australian Competition and Consumer Commission (ACCC), *Inquiry into the National Electricity Market: December 2023*, ACCC, Australian Government, 15 December 2023.

use of and leverage different consumer energy resources products to provide a range of services and benefits. Some examples of consumer energy resources and new energy services are outlined in Table 1.1.

Table 1.1: Examples of consumer energy resources and new energy services

Consumer energy resources	New energy services
Rooftop solar photovoltaic systems	Virtual power plants
Home or community sized battery storage device	Electric vehicle charging tariffs
Electric vehicles	Behavioural demand response programs
Electric vehicle charging infrastructure	Home management and optimisation tools
Control enabled assets such as air conditioners, water heaters and pool pumps	Community solar program
	Community batteries program

1.2.2. The role of consumer energy resources in the energy transition

As the Australia Energy Market Operator (AEMO) and the Energy Security Board have reflected on, consumer energy resources will play a critical and transformative role in the energy transition and in our future energy system. If these assets are well coordinated and efficiently integrated into the energy system, they will deliver system-wide benefits including reliable and secure energy at a lower cost, offset the need for additional grid-scale investment, and reduce costs for consumers as well as energy sector emissions.[11] [12]

The key to realising these benefits is providing customers with the right incentives to take up consumer energy resources and participate in new energy services. Customers are more likely to make the potentially large financial investments in these products and services where there are benefits and incentives.

The challenge is aligning customer incentives with those of retailers and the networks to realise these benefits. However, if done correctly, this can provide both benefits to the customer but also the broader system. This will mean the benefits of the energy transition are shared by all customers, not just those who can invest in consumer energy resources.

1.3. This report includes new energy services

This report examines the electricity billing outcomes for regular customers and, for the first time, new energy service customers.

Building on our historical dataset, we present analysis on customer bills, usage, unit prices and the effect of government rebates across different customer groups and regions.[13] We also analyse trends in the use of solar, bills and feed in tariffs by residential and small business customers using a range of information sources.

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[11] Australian Energy Market Operator, *2024 Integrated System Plan,* 2024, p 30.

[12] Energy Security Board, *Consumer energy resources and the transformation of the NEM*, 2024, pp 8-9.

[13] The ACCC has been collecting information on electricity bills from retailers since the September 2020 billing report. Our billing analysis provides stakeholders with accurate information on prices faced by customers not available from other sources and is more accurate than other proxy metrics.

We have analysed billing outcomes for 3 different new energy services: electric vehicle tariffs, behavioural demand response programs and virtual power plants. In our analysis we explore the take up of new energy services, the level of competition for different new energy services, billing and usage outcomes for different new energy service customers, and customer motivations for adopting new energy services.

Further, we have also collected information and analysed customers' contract terms and conditions for new energy services and for customers taking up financing and subscription arrangements for consumer energy resources. In this analysis, we have considered work undertaken to update the consumer protection framework, customer experiences as reported to state ombudsman schemes, and further protections that may be required to support consumer participation in virtual power plant programs and other new energy services.

1.3.1. We focus on 3 main types of new energy services

We have focused on 3 new energy services which represent a set of commonly available products that are supplied by multiple providers in various forms. This list is not exhaustive, and the range of services available in the energy market varies and will likely continue to evolve.

Behavioural demand response

Some retailers offer incentives for customers to lower their energy usage during times of peak system demand. Customers can sign up with their retailers to be requested to reduce their energy usage below their benchmark consumption during times of peak demand and receive a benefit in return. Peak demand is when the system demand is reaching or exceeding the electricity supply available. Customers who participate in these events may receive bill credits, gift cards or other rewards for reducing usage.

Electric vehicle tariffs

Retailers may offer customers with an electric vehicle tariff a dedicated tariff for charging their electric vehicle. These tariffs are both more attractive to the electric vehicle owner than standard tariffs and assist retailers in managing energy during particular times of the day (generally middle of the day or at nighttime when demand is low).

Virtual power plants

As part of a virtual power plant, a customer allows their retailer to coordinate and aggregate their premise's controllable loads (that is, solar photovoltaic system, battery storage, air conditioners, storage water heaters, or pool pumps) to some degree. In return for relinquishing a degree of control, the customer may be provided with a benefit (that is, credit or reduced electricity tariff).

1.3.2. Consumers take up new energy services for financial and non-financial reasons

To inform our understanding of potential barriers to entry and consumer attitudes to new energy services, we issued a survey to providers of energy services and considered other publicly available consumer research. The results of our survey are included in Appendix E.

Providers expressed to us differing views around barriers to offering different new energy services. The lowest barriers to entry were for electric vehicle tariffs, while virtual power plants were identified as having the highest barriers to entry. Some providers also noted extremely strong barriers to financing arrangements and behavioural demand response programs.

In considering the reasons why consumers do or do not take up new energy services, we found some high-level themes in providers' responses to our survey and in consumer research (see Table 1.2).

Table 1.2: Common sentiments around new energy services

Consumers' drivers	Consumers' concerns
Reducing their energy bill	Upfront investment costs
Attaining affordable and reliable energy	Complexity
Supporting Australia's renewable energy and sustainability ambitions	Lack of familiarity
Being rewarded for contributing to the energy transition, particularly when giving up some control of their asset	Giving up some control of their asset

Providers felt reducing bills was the most common reason for consumers to take up new energy services, while noting complexity, lack of familiarity and additional costs as reasons they may be hesitant.[14] In AusGrid's Virtual Power Plant Progress Report, respondents most commonly indicated that helping the electricity grid be managed more efficiently as their reason for participating.[15] In Energy Consumers Australia's PowerUp: Consumer Voices in the Energy Transition report, customers were asked to choose 3 to 4 values that were most important to them in the future of energy out of 15 possible choices. Consumers most commonly chose affordability and reliability (75%), while sustainability was the third most chosen (41%).[16]

Financing/subscription arrangements for consumer energy resources

In addition to the 3 new energy services above, we also considered financing/subscription arrangements for consumer energy resources. To overcome financial barriers to investing in new energy services, customers may choose to access financial arrangements that require less upfront investment.

This may include retailers offering traditional loan arrangements for electrical hardware where a customer may receive an interest free period, or a low interest rate for several months or years, but receives the product from the outset and can receive associated benefits. Alternatively, some retailers offer 'subscriptions' for hardware that enable customers to benefit from such hardware in return for a set monthly fee. In some cases (such as for electric vehicles) this acts as a hire fee for as long as the hardware is required.

[14] Note that our survey results were mostly received in February 2025, before the Australian Government announced the Home Battery Subsidy Scheme (which may have influenced providers views of future uptake).

[15] Ausgrid, *Virtual Power Plant Progress Report November 2020*, 2020, p 20.

[16] Energy Consumers Australia, *PowerUp: Consumers Voices in the Energy Transition Report, July 2024*, 2024.

14. How we present our billing analysis

Retail electricity bills normally include different components, such as a range of charges, rebates, and adjustments. In addition to presenting information on customer bills, we also consider customer usage, effective prices and the effect of government rebates to illustrate customer outcomes in greater detail.

We explore the impact of government rebates on billing outcomes across different customer groups and regions by examining customer bills with and without rebates. This analysis was enabled by obtaining more granular data from retailers for the June 2024 report, which we have continued.

In some areas, we also consider effective prices shown in cents for every kilowatt hour (c/kWh). This is calculated as total charges ($) divided by usage (kWh). Effective price takes usage into account as well as the fixed charges and shows a per unit metric of the underlying prices that customers face over time and across customer groups.

In other areas, we also consider effective usage prices. This is also presented in c/kWh, but excludes any supply charges and feed-in tariffs, and so it is calculated as total usage charge ($) divided by usage volume (kWh).

We present our analysis in nominal dollars (unless stated otherwise), excluding the goods and services tax (GST).

Our analysis in chapters 2 and 3 presents results from billing data obtained from retailers using our compulsory information gathering powers under section 95ZK of the *Competition and Consumer Act 2010*. Our primary analysis period is quarter 3 (July to September) of 2023 to quarter 3 of 2024. We use third quarter bills as it is the most recent quarter for which we have complete billing data. For regular customers in our general billing dataset, we also present some time-series results for the third quarter back to 2018.

There are 2 types of customer retail contracts under the National Energy Retail Law and Victorian Energy Retail Code of Practice:

- Standard retail contracts
- Market retail contracts.

In Chapter 2 of this report, we use the terms ‘standing offer’ to refer to standard retail contracts and ‘market offer’ to refer to market retail contracts.

We also provide information on current market conditions (up to May 2025), using publicly available data from independent government price comparison websites, including Energy Made Easy and Victorian Energy Compare.

15. The data we collect

1.5.1. Regular billing data

The billing data we collect is not publicly available from any other source. It contains information on charges, tariff types, usage, discounts, solar, concessions and rebates, which allow us to directly analyse the electricity bills customers receive. Using this dataset, we examine the billing outcomes that residential and small business customers experience across different regions in the NEM, for the period up to December 2024.

To inform this report, we collected billing data from 8 retailers, which cover 97% of residential customers and 90% of small business customers in New South Wales, Victoria, South Australia and South East Queensland. Our general billing dataset covers the years from 2018 to 2024.

This report focuses on regions with effective retail competition. While the ACCC's monitoring remit extends to all NEM regions, this report covers New South Wales, Victoria, South East Queensland, and South Australia, consistent with previous billing reports. Where we refer to all regions combined, we are referring to data from all these regions.

Retail electricity prices for many NEM customers are still regulated. As such, we do not collect data for the Australian Capital Territory, regional Queensland or Tasmania.

We collect consumer billing data from electricity retailers using our compulsory information gathering powers. Our 'regular billing' dataset represents customers that are not necessarily on a new energy service. For this dataset, retailers must give us bills for:

- a randomised representative sample of residential customers
- all small business customers
- all residential hardship, concession and payment plan customers.

1.5.2. New energy services data

To inform the analysis of new energy services, we obtained additional data alongside the ACCC's regular billing data set from the same group of retailers. We collected billing data for customers on virtual power plant services, electric vehicle tariffs and behavioural demand response plans. We received billing data for very few small business customers, so most of our new energy service analysis only covers residential customers.

We were unable to collect usage data for self-consumption (which occurs 'behind-the-meter') for solar and new energy service customers, and so all usage results for these customers represents their usage from the grid.

The ACCC also obtained yearly customer numbers from 1 July 2022 to 2 January 2025 for virtual power plants, electric vehicle tariffs, behavioural demand response programs and financing/subscription arrangements. For virtual power plants, we collected the volume of electricity available for use and the amount of electricity cumulatively dispatched by each retailer for each period.

To support our analysis, we obtained NEM battery installation data from the AEMO contained in the distributed energy resources register. We matched this data with our billing dataset using meter numbers to allow more detailed analysis of billing outcomes for customers with batteries.

To complement our new energy services data, we collected terms and conditions documents for the top new energy service plans offered by 19 retailers. As noted in Section 1.3.1, we also collected data through a survey to energy retailers and providers, receiving 19 responses in total (17 retailers and 2 non-retailers). We collected customer numbers as of 2 January 2025 for new energy services and asked providers to respond to a range of qualitative questions.

While our dataset of virtual power plant and electric vehicle tariff customer bills is a smaller sample of about 34,100 customers, this data and our survey results provide valuable insights into the growth and current state of new energy service products across the NEM.

Due to this smaller sample, some of our analysis of billing outcomes for customers with batteries or in virtual power plants contained small numbers of customers. This should be taken into account when interpreting the results of this analysis.

Additionally, as we identified very few small business customers for all new energy services, except for behavioural demand response, our analysis throughout Chapter 3 focuses on residential customers.

For further information about our data collection method see Appendix A.

2. Market conditions and consumer outcomes

Key points

- When measured on an annual basis to quarter 3 2024, median electricity bills rose slightly in New South Wales (2%), Victoria (5%), and South Australia (6%). However, they fell sharply in South East Queensland (by 85%), largely the result of Queensland's $1000 Cost of Living rebate, which was paid to all households as a lump sum in July 2024.
- The Australian Government's 2024—25 expanded Energy Bill Relief Fund, which was paid to all households from July 2024, has reduced household electricity bills.
  - The first $75 quarterly instalment led to median bills across the National Electricity Market (NEM) being 21% lower in quarter 3 2024 when compared to the same quarter a year earlier. Results varied by region, with the largest decrease in quarterly bills occurring in South East Queensland (-160%), due to the Cost of Living rebate.
  - Without rebates, the median quarterly residential electricity bill across the NEM would have increased by 4% between quarter 3 of 2023 and 2024.
- Eligible small business customers continued to receive Energy Bill Relief Fund payments (of $325 per year) in 2024-25. The median bills for small business fell 2% across the NEM. This was driven by lower usage, with effective prices relatively unchanged.
- Usage levels increased slightly in quarter 3 2024 for residential customers, having been at abnormally low levels in winter 2023. Small business usage levels continue to trend downwards.
- There were about 12,000 more customers on hardship and/or payment plans in quarter 3 2024 than a year earlier (up 7%). Customers with a concession continue to pay significantly lower bills.
- Customers on time-of-use and demand tariffs continue to grow. As of 2023–24, around 24% of residential households are on either a demand or time-of-use tariff.
  - Customers on time-of-use and demand tariff customers generally consume more electricity than those on flat rates (about 12–32% over the past year).
  - Higher usage is the primary reason why these customers have median bills that are around 10–21% higher than those on flat rate plans over the same period.
- More households are using solar energy. Solar customers continue to have lower bills (about 28% less) than non-solar customers while consuming around 4% more electricity during the 2023–24 financial year.
- Lower solar feed-in tariffs can prompt solar households to explore the new energy services and resources, rather than relying solely on solar credits to reduce their bills.
- Customers on market offers tend to have lower prices than customers on standing offers, although there is a wide distribution of prices for both.

This chapter:

- updates our data set on billing information from customers between quarter 3 2018 and quarter 3 2024 on bill amounts, usage, unit prices and the effect of government rebates across different customer groups and regions
- analyses trends in the use of solar, bills and feed in tariffs by residential customers.[17]
- provides an overview of electricity plans available to new customers, or customers seeking to switch plans (acquisition offers) and default offer prices, using publicly available data

Rebates heavily influenced bill amounts in quarter 3 2024. Two rebates in particular affected results.

1. In 2024—25 the Queensland Government increased its Cost of Living rebate paid to all households with an active account from $550 to $1,000. The rebate was paid as a lump sum in July 2024.
2. The Australian Government expanded its Energy Bill Relief Fund payment in 2024—25. A $300 rebate was provided to all households with an active account and paid in quarterly $75 instalments, starting from July 2024.

To contextualise the impact of rebates, headline results are presented both with and without rebates, and for different regions in the National Electricity Market (NEM).

2.1 Government rebates have reduced consumers' electricity bills

When aggregated across all NEM regions, median bills for residential customers in quarter 3 2024 were 21% lower than in quarter 3 2024 (Table 2.1). This was largely due to the expansion of the Australian Government's Energy Bill Relief Fund.

From July 2024, all residential customers with an active account became eligible for Energy Bill Relief Fund rebates. States also apply their own concessions and rebates, some of which were also expanded (see Section 2.2). Without rebates, median bills for residents would have increased by about 4% across the NEM.

When excluding the effect of rebates, the increase in median bills for residential customers was relatively small. It corresponded with a small increase in usage, whereas effective prices (without rebates) remained relatively unchanged.

For small businesses, the effective price (both with and without rebates) was relatively unchanged. Usage for small businesses declined, which resulted in median bills in quarter 3 2024 being slightly lower than in quarter 3 2023.

The negligible change in effective prices without rebates for residential and small business customers between quarter 3 2023 and 2024 is consistent with results from the ACCC's December 2024 inquiry report, which found that retail prices faced by customers in August 2024 were slightly lower than in the previous year. There were also small decreases in

[17] This chapter discusses customers who have solar panels only, without batteries. For billing outcomes related to customers who have both solar panels and batteries, refer to Chapter 3.

default offer prices set in July 2024 by the Australian Energy Regulator[18] and Victorian Essential Services Commission.[19]

Table 2.1: Rebates significantly reduced residential bills in quarter 3 2024

Change in median bills (with or without rebates), median usage and median effective prices, quarter 3 2023 to 2024

Customer type	Bills	Effective price	Usage	Bills (without rebates)	Effective price (without rebates)
Residential	-21%	-18%	2%	4%	1%
Small business	-2%	0%	-4%	-2%	1%

Note: Effective price is a unit price measure. It is calculated as the bill amount divided by usage.

Source: ACCC analysis of retailer billing data. Nominal dollars, excluding GST.

These NEM-wide results mask some variation in the bill amounts, effective prices and usage between different NEM regions. Results for each NEM region is discussed in more detail below.

2.1.1. Broad-based government rebates have significantly reduced bills, which would have otherwise increased

The Australian Government introduced the Energy Bill Relief Fund for the 2023–24 financial year. It was initially a targeted payment, available to households who received family tax benefits or held relevant concession cards. In 2024–25 this funding program was expanded to cover all households and was paid in quarterly instalments from July 2024. Appendix B contains more details on the Energy Bill Relief Fund programs since 2023.

A summary of the non-targeted rebates that all households have received since 2023 is in Table 2.2. Note that this does not include other targeted concession and rebate payments that households may also be eligible for (see Appendix B for a full list of all concessions and eligibility criteria).

[18] Australian Energy Regulator (AER), *Default market offer prices 2024-25*, AER, Australian Government, 3 June 2024, accessed on 5 May 2025.

[19] Essential Services Commission (ESC), *Victorian Default Offer 2024-25: Final Decision Paper*, ESC, Victorian Government, 20 May 2024, accessed on 5 May 2025.

Table 2.2: Broad based (non-targeted) rebates paid to all households

	New South Wales, Victoria and South Australia	Queensland
2023-24		
Cost of living rebate (Qld)	NA	$550 ($137.50 paid each quarter)
2024-25		
Energy Bill Relief Fund (National)	$300 ($75 paid each quarter)	$300 ($75 paid each quarter)
Cost of living rebate (Qld)	NA	$1000 (lump sum paid in July)

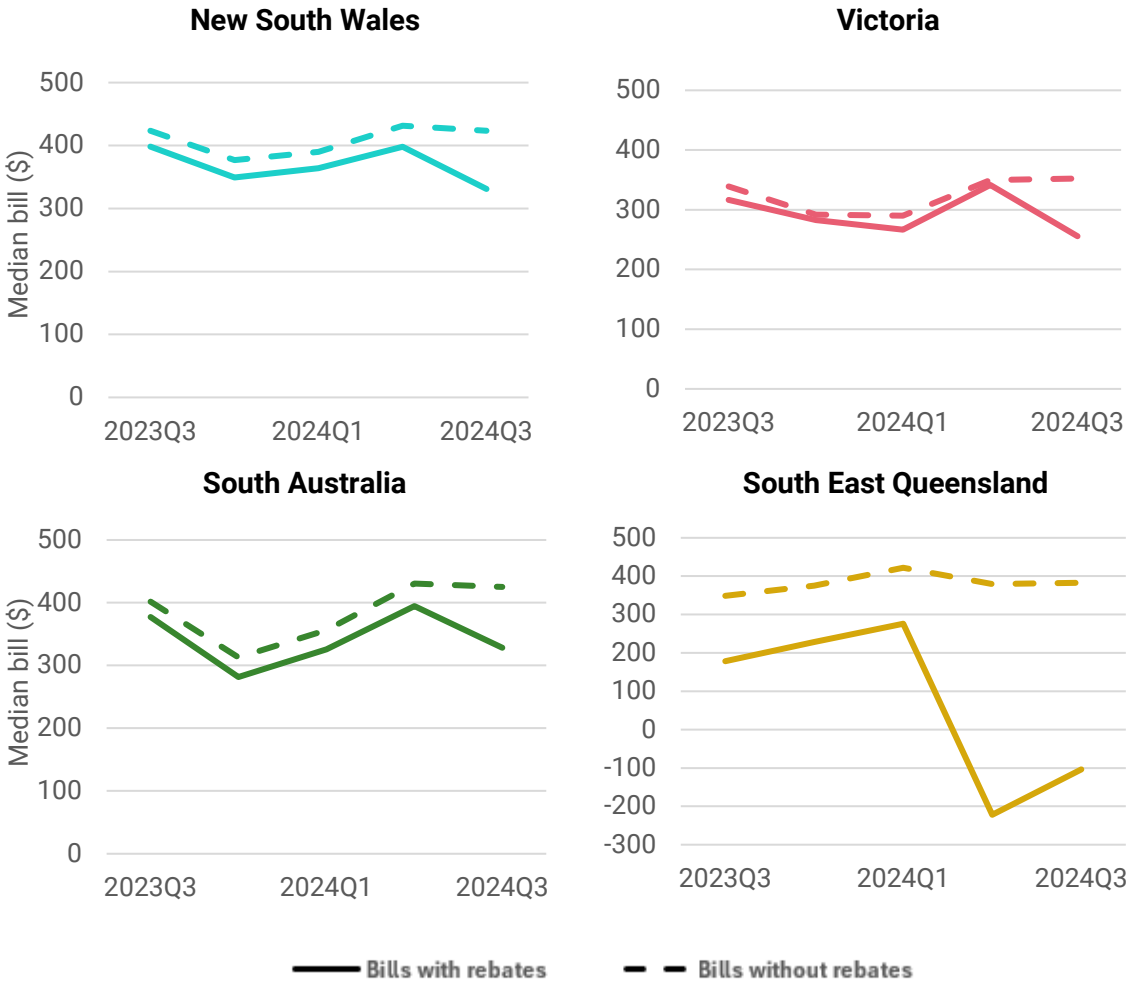
Broadening the Energy Bill Relief Fund led to much lower median bills across all regions in quarter 3 2024 (Figure 2.1).

Furthermore, we observe that the difference between bills with rebates and bills without rebates was much higher in South East Queensland. In addition to the Energy Bill Relief Fund, there is a Cost of Living Rebate in Queensland, which is also paid to all households. This rebate was increased from $550 in 2023–24 (paid in quarterly instalments) to $1,000 and paid as a lump sum in July 2024. Note that the Queensland Cost of Living rebate starts to have an impact on bills from quarter 2 2024, as the methodology we use to derive quarterly bills apportions the rebate across the entire usage period for which the billing invoice applies to, and bills are usually paid in arrears.[20]

[20] By way of example, suppose a customer has a monthly bill issued in the middle of each month. For a bill invoice in mid-July (covering a 30-day period between mid-June and mid-July) we would apportion the bill charges and any rebate received equally across the second half of June and the first half of July. This results in about half the bill and rebate amounts apportioned in quarter 2 (which covers the months April, May and June) and the other half apportioned in quarter 3 (July, August and September).

Figure 2.1: Rebates significantly reduced residential customer bills, particularly in South East Queensland

Median bills paid by residential customers, with and without rebates, by region, quarter 3 of 2023 to quarter 3 of 2024

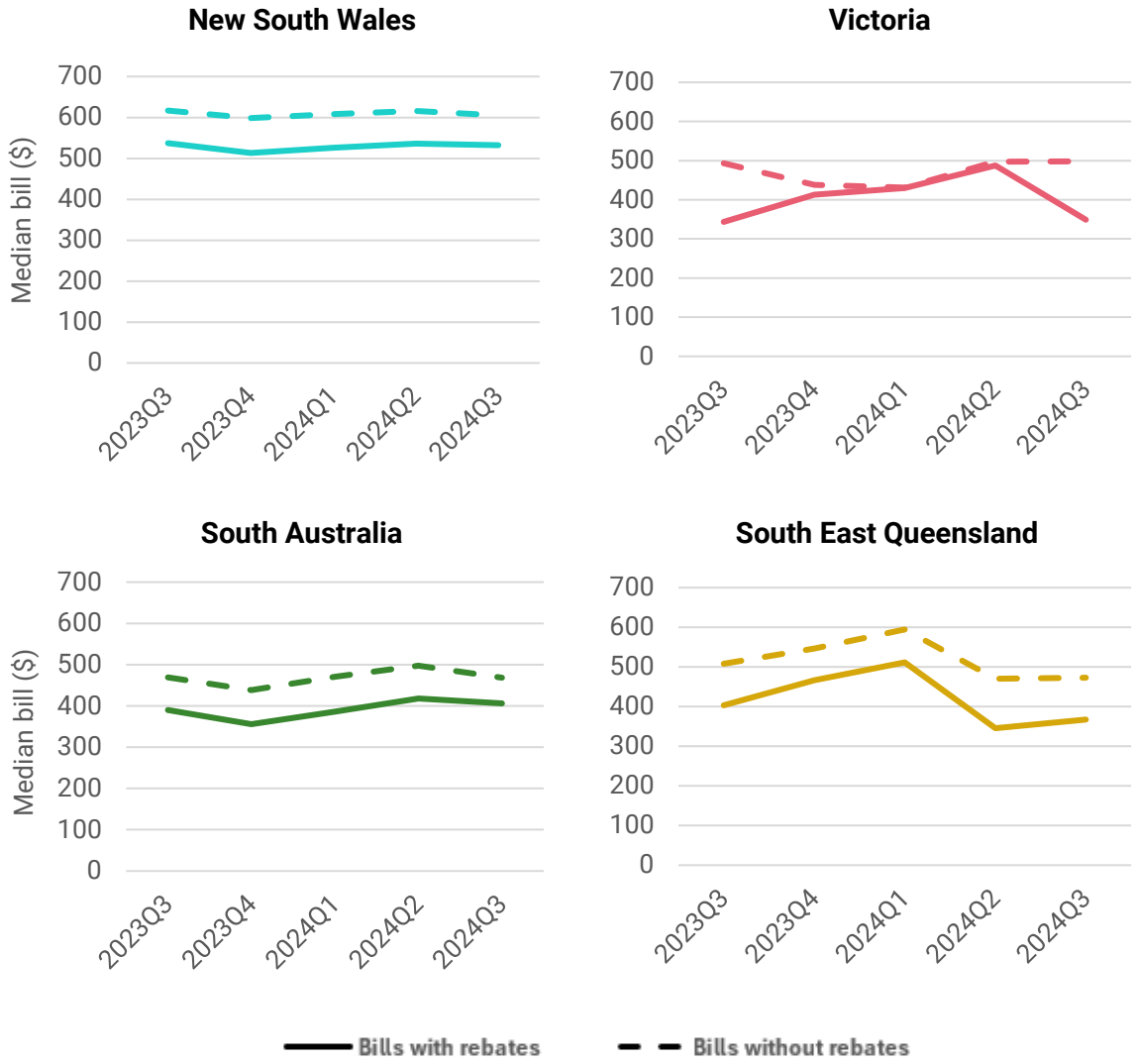


Source: ACCC analysis of retailer billing data. Nominal dollars, excluding GST.

Small business customers across Australia also receive rebates, including the Energy Bill Relief Fund of $325. In contrast to other jurisdictions, in Victoria this rebate is paid as a lump sum in July each year, which leads to more variation in quarterly bill amounts than in other regions (Figure 2.2).

Figure 2.2: Rebates reduced small business bills in all regions

Median bills paid by small business customers, with and without rebates, by region, quarter 3 of 2023 to quarter 3 of 2024



Source: ACCC analysis of retailer billing data. Nominal dollars, excluding GST.

2.1.2. Residential customer bills fell in each region

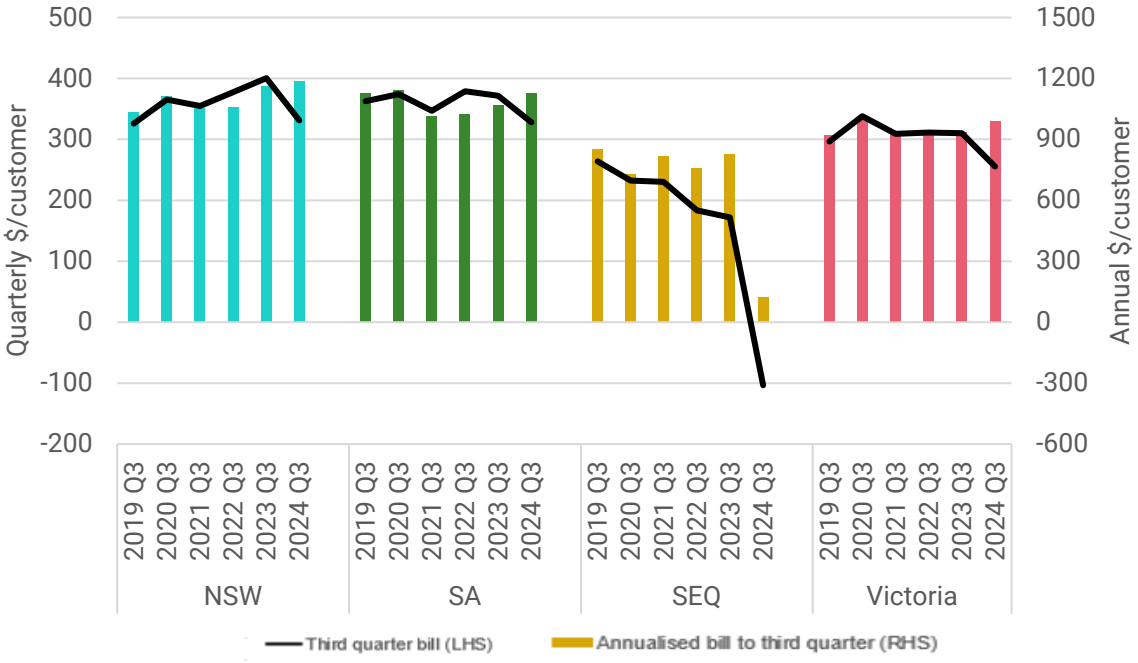
Quarter 3 2024 bills for residential customers fell sharply across all regions compared to a year earlier (Figure 2.3). As noted in Section 2.2.1, this quarter was impacted by the broadening of the Energy Bill Relief Fund. In South East Queensland the reduction in bills was even more significant, due to the additional lump sum rebate of $1,000 for all households. This substantially reduced the quarterly median bill in quarter 3 2024 (July to September), which led to a 'negative' bill amount. In practice, this meant some customers received a bill credit which exceeded their total usage and other charges and had a zero-dollar bill charge. These customers will not have to pay a bill until their credit balance runs out.

Bill amounts might vary across quarters, due to changes in usage levels over the year. An annualised bill amount smooths out some of the short-term impacts on customer bills. An annualised bill is the median bill amount for all of a customer's account bills when

aggregated over the course of a year. Annualised bills to the third quarter of 2024 were higher than the year before in Victoria, New South Wales and South Australia, by between 2 to 6% (Figure 2.3). Note also that annualised bills are relatively stable in these regions over the longer term. While annualised bills have declined in South East Queensland in 2024, we would expect a sharp rebound to occur in 2025, unless the state government extends the $1,000 lump sum Cost of Living Rebate.

Figure 2.3: Annualised bills rose slightly in New South Wales, Victoria and South Australia but fell sharply in South East Queensland

Median bills paid by residential customers, by region, annualised and quarter 3, 2019 to 2024



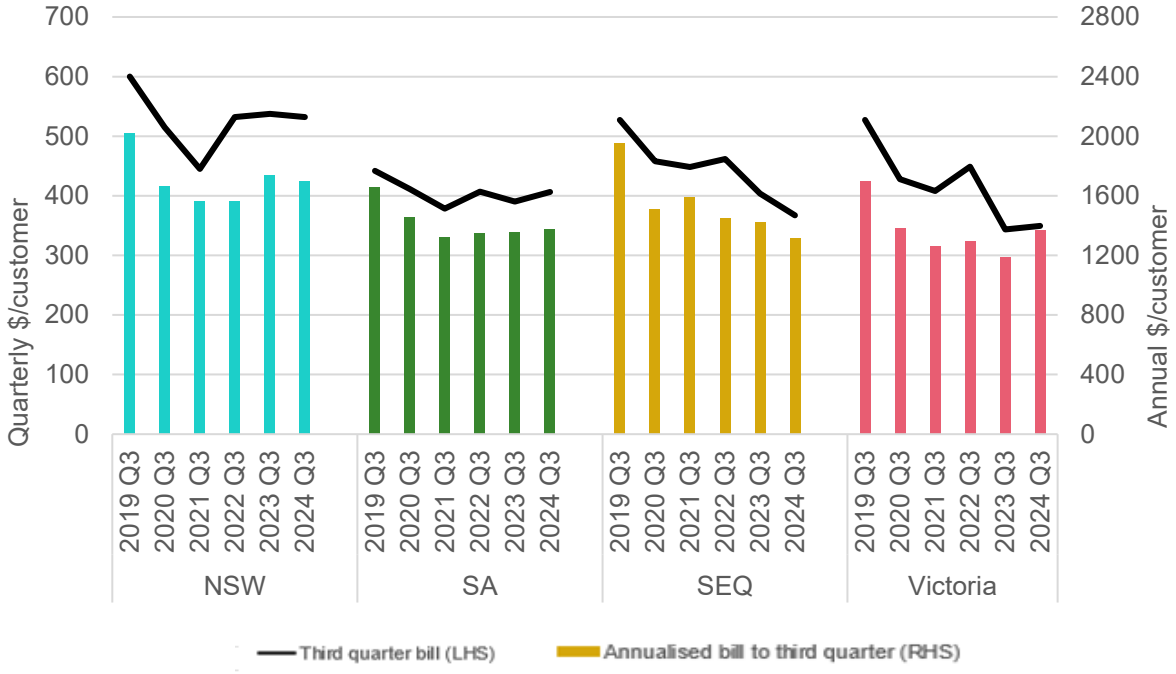
Source: ACCC analysis of retailer data.

2.1.3. Changes in small business bills varied across regions

Small businesses were eligible for the Energy Bill Relief Fund rebate of $325 in both 2023–24 and 2024–25. Some state governments also contributed their own additional payment. In Victoria, the Energy Bill Relief Fund was paid as a lump sum from July (in both 2023 and 2024). In other regions, it was applied quarterly. As a result, the third quarter bill amounts in Victoria have tended to be much lower in these years. However, when annualised, bills in Victoria (and other regions) have tended to be more stable (Figure 2.4).

Figure 2.4: Annualised bills for small businesses have been relatively stable in most regions

Median bills paid by small business customers, by region, annualised and quarter 3, 2019 to 2024



Source: ACCC analysis of retailer data.

2.1.4. Electricity usage varied across customer types and regions

Median usage increased for residential customers in all regions except South Australia in quarter 3 of 2024 compared with the same quarter of 2023. Usage for small businesses decreased in a continuation of the general downward trend over recent years. Overall, usage for residential customers was 2% higher in quarter 3 2024 compared to the corresponding quarter in 2023 across all regions. Usage for small businesses was 3% lower in quarter 3 2024 (Figure 2.5).

Usage depends strongly on weather conditions and varies between seasons. Residential usage is highest in quarter 3 (July to September) (see the shaded area in Figure 2.5), which corresponds to most of the winter period. Space and water heating comprises around 61% of residential energy usage.[21] Low winter temperatures can therefore result in households significantly increasing their electricity usage. Conversely, warm winter temperatures can significantly decrease electricity usage.

The winter of 2023 was Australia's warmest on record since 1910, with each region experiencing unusually warm winters.[22] As a result, usage fell to its lowest levels since the

[21] Australian Bureau of Statistics (ABS), *Household energy use and conservation*, ABS, Australian Government, 24 May 2012, accessed on 19 May 2025.

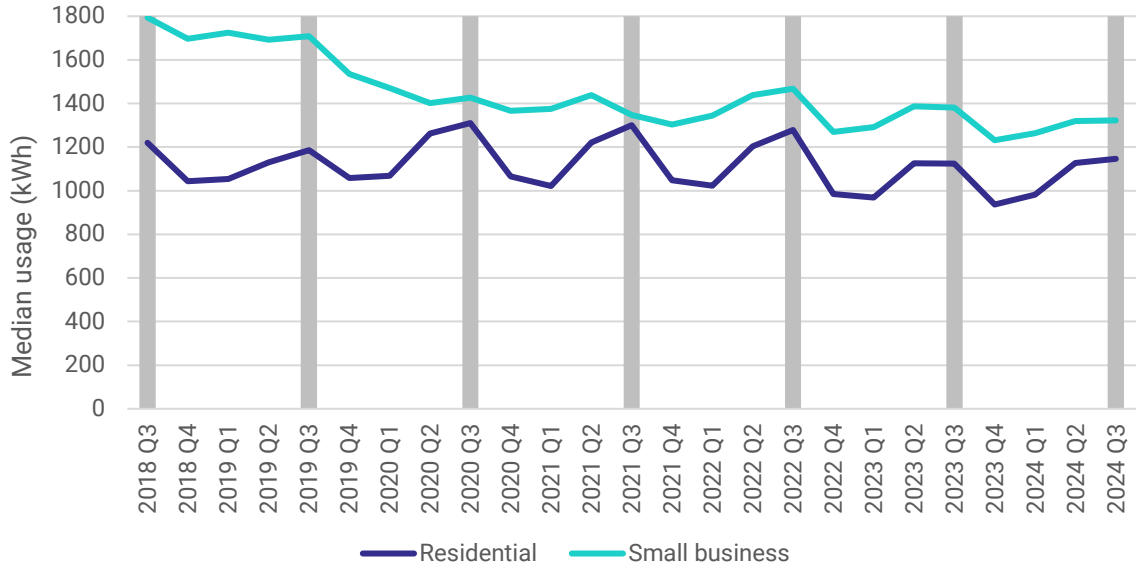
[22] Bureau of Meteorology (BOM), *Annual climate statement 2023*, BOM, Australian Government, 8 February 2024, accessed on 19 May 2025.

ACCC began reporting in 2018.[23] Although the winter of 2024 was warmer than the long-term average, winter was colder overall compared to 2023.[24] This is the likely driver behind the increase in residential usage. This is also supported by reported increases in NEM operational demand for the same quarter.[25]

We have also looked at heating degree days for capital cities over the previous three winters to further highlight the link between temperature and heating demand. Heating degree days are based on outside air temperate observations and are aimed at measuring the intensity of heating demand over a certain period.[26]

Figure 2.5: Electricity usage increased for residential customers in 2024 but declined for small businesses

Median usage by residential and small business customers, all regions combined, quarter 3 2018 to quarter 3 2024



Source: ACCC analysis of retailer data.

The number of heating degree days across Melbourne, Adelaide, Sydney and Brisbane combined fell significantly in the 2023 winter, decreasing by 19.8% compared to the 2022 winter. Heating degree days then increased by 9.8% in the 2024 winter compared to 2023.[27] This pattern was observed in each capital city, with Sydney and Brisbane experiencing relatively larger variations between years compared to Melbourne and Adelaide (noting that Melbourne and Adelaide have more heating degree days due to the colder climate). Although winter heating degree days rebounded overall in 2024, the heating degree days for August

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23 Australian Competition and Consumer Commission (ACCC), *Inquiry into the National Electricity Market: June 2024*, ACCC, Australian Government, 28 June 2024, pp 1–2.

24 Bureau of Meteorology (BOM), *Annual Climate Statement 2024*, BOM, Australian Government, 6 February 2025, accessed on 19 May 2025.

25 Australian Energy Market Operator (AEMO), *Quarterly Energy Dynamics* Q3 2024, AEMO, 2023.

26 We have used the Bureau of Meteorology's approach for calculating heating degree days. The heating degree days for a particular day is the difference between a comfort level threshold of 18°C and the simple average of minimum and maximum temperature for that day, but only when the average is lower than 18°C. For example, if the average temperature is 15°C, the number of heating degree days for that day is 3. If the average temperature is above 18°C, there are no heating degree days recorded from that day. Heating degree days can then be added over a month, season, or other defined period as an indicator of heating demand for that period.

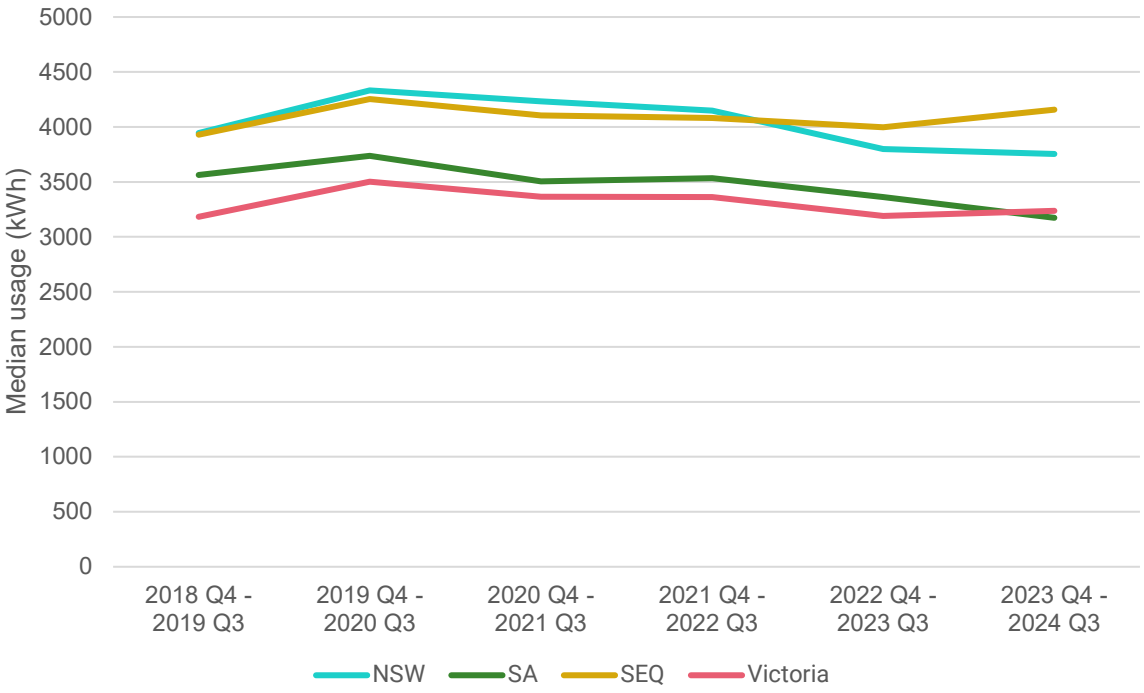
27 Bureau of Meteorology (BOM), Historical observation series for Melbourne (Olympic Park), Adelaide (Adelaide Airport), Sydney (Observatory Hill) and Brisbane, accessed on 19 May 2025.

2024 decreased significantly (except for Brisbane) as Australia experienced its hottest August on record.[28] More detailed figures on heating degree days are in Appendix C.

Quarterly usage levels can mask longer term trends and any changes in usage due to the weather changes throughout the year. Annualised median usage to quarter 3 of each year has been declining for residents in New South Wales and South Australia since 2019. In contrast, the median annual usage levels for residents in Victoria and South East Queensland have been relatively unchanged over that time (Figure 2.6)

Figure 2.6: Yearly electricity usage is trending down for residents in New South Wales and South Australia

Median annualised electricity usage, residential customers, by NEM region (to third quarter), 2018 to 2024



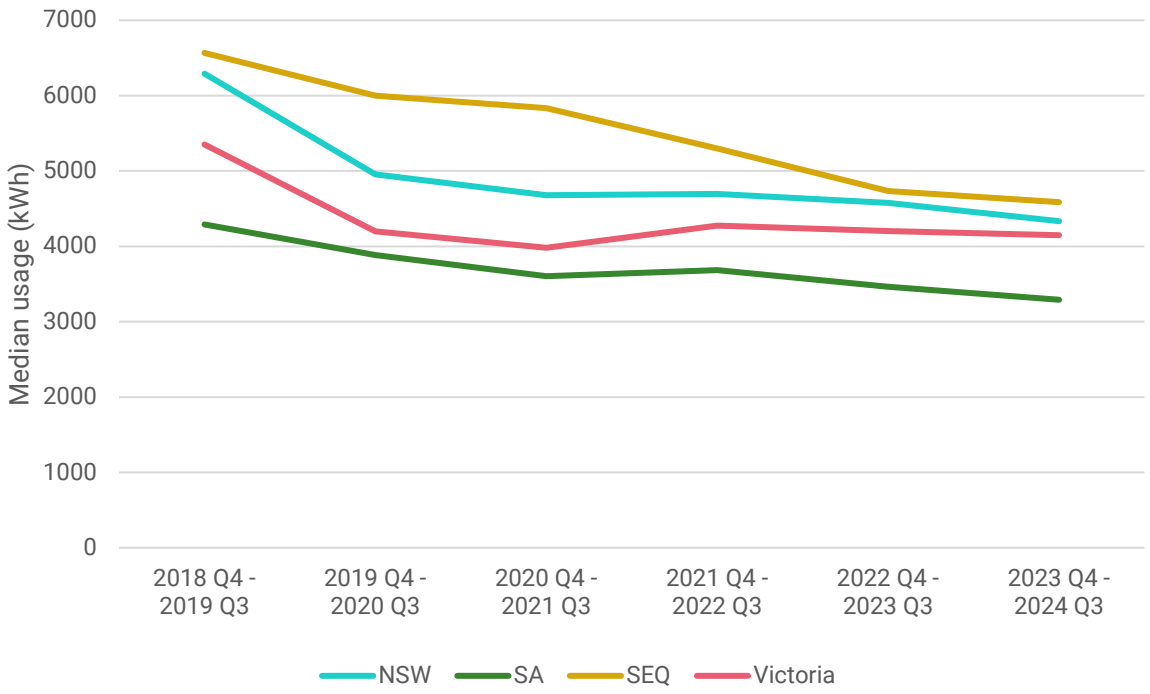
Source: Analysis of ACCC retailer data.

For small businesses, annualised usage has been trending down for the past 5 years in New South Wales, South Australia and South East Queensland. In contrast, usage for small businesses in Victoria has been relatively stable since 2020 (Figure 2.7).

[28] Bureau of Meteorology (BOM), *Annual Climate Statement 2024*, BOM, Australian Government, 6 February 2025, accessed on 19 May 2025.

Figure 2.7: Electricity usage is trending down for small businesses in most regions

Median annualised electricity usage, small business customers, by NEM region (to third quarter), 2018 to 2024



Source: Analysis of ACCC retailer data.

2.1.5. Effective prices for residential customers decreased across each NEM region in 2024

Effective price is the average amount that a customer pays per unit of electricity (presented as cents per kilowatt hour in this report). Changes in median effective price are driven by changes in retailer rates, but also influenced by government rebates, concessions payments, discounts, solar feed-in tariffs, and customer usage (see Appendix A for further explanation of effective prices). For most customers, the most significant charges on their bill depend on their usage. However, some charges do not change with how much electricity a customer uses. An explanation of electricity charges is provided in Box 2.1.

Although effective prices are typically higher for customers with very low usage, they provide a useful measure for comparing prices across time, particularly between different parts of the year.

Box 2.1: What prices and charges make up an energy plan?

The prices, fees, charges, and benefits which make up an energy plan are incorporated into a standard form contract. There are 2 types of customer retail contracts, standard retail contracts and market retail contracts. These are explained in more detail in Section 2.4. The pricing structure of an electricity plan is called a tariff or rate. Tariffs are typically structured to include fixed and variable charges. We discuss how tariff structure affects bills in Section 2.3.

Fixed charges

Fixed charges allow retailers to recover revenue regardless of a customer's electricity usage. They are commonly imposed as 'supply charges' where the customer is charged a set dollar amount per day.

Variable charges

Commonly imposed as 'usage charges', customers are charged per unit of electricity they consume. This charge is normally presented in cents per kilowatt hour (c/kWh). Unlike fixed charges, usage charges depend on a customer's electricity use.

Credits and rebates

Customers with rooftop solar systems receive feed-in tariff credits in exchange for exporting electricity to the grid. Other credits on energy bills may include rebates and concessions which are not part of the energy plan but set by governments (see Appendix B for further details). The impact of the Energy Bill Relief Fund rebate is considered in Section 2.1.1.

Incentives and benefits

Customers can also choose market offer plans with benefits and incentives. Benefits (such as discounts) and incentives (such as loyalty program points and free subscriptions) are often used as marketing tools by retailers.

Other fees and charges

Electricity plans can also include a range of one-off or periodic fees and charges such as account administration or meter-reading fees. These fees and charges often have little impact on the overall bill but can be more substantial in some cases.

Residential customers paid considerably lower effective prices in quarter 3 of 2024 compared to a year earlier (Figure 2.8). Across all regions, median effective prices fell by 18%, with the largest fall in South East Queensland (-151%) and smallest in South Australia (-12%).

Note that the downward spikes in the third quarters of 2022 and 2023 for South East Queensland were due to broad-based rebates applied to customers' bills in those years.[29] The Queensland Government's lump sum payment of $1,000 to all households is what contributes to the large downward shift in effective prices in quarters 2 and 3 of 2024. We would expect effective prices to rebound and be more in line with longer term averages in South East Queensland from quarter 4 2024.

Notwithstanding some volatility due to rebates, over the longer-term effective prices were relatively stable from 2018 to the start of 2023 across all regions. With the expansion of the Australian Government's Energy Bill Relief Fund in 2024–25, median effective prices in

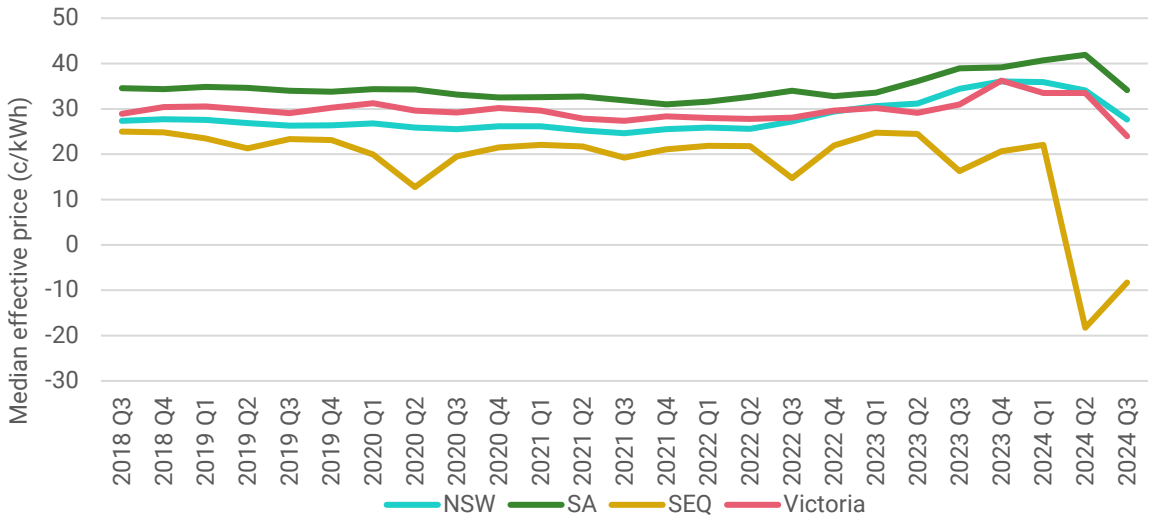
[29] Australian Competition and Consumer Commission (ACCC), *Inquiry into the National Electricity Market: June 2024*, ACCC, Australian Government, 28 June 2024, p 29.

nominal terms in quarter 3 2024 were at, or in some regions well below, what they were in 2018. Over the same period inflation increased by more than 22%, meaning that electricity prices declined substantially in real terms due mostly to the Energy Bill Relief Fund payments.

As the Energy Bill Relief Fund comes to an end in quarter 4 of 2024, we would expect to see a rebound in effective prices in all regions from 2025.

Figure 2.8: Effective prices for residential customers fell in all regions in 2024

Median effective prices paid by residential customers by region, quarter 3 2018 to quarter 3 2024



Source: ACCC analysis of retailer data.

2.1.6. Effective prices for small businesses varied across regions in 2024

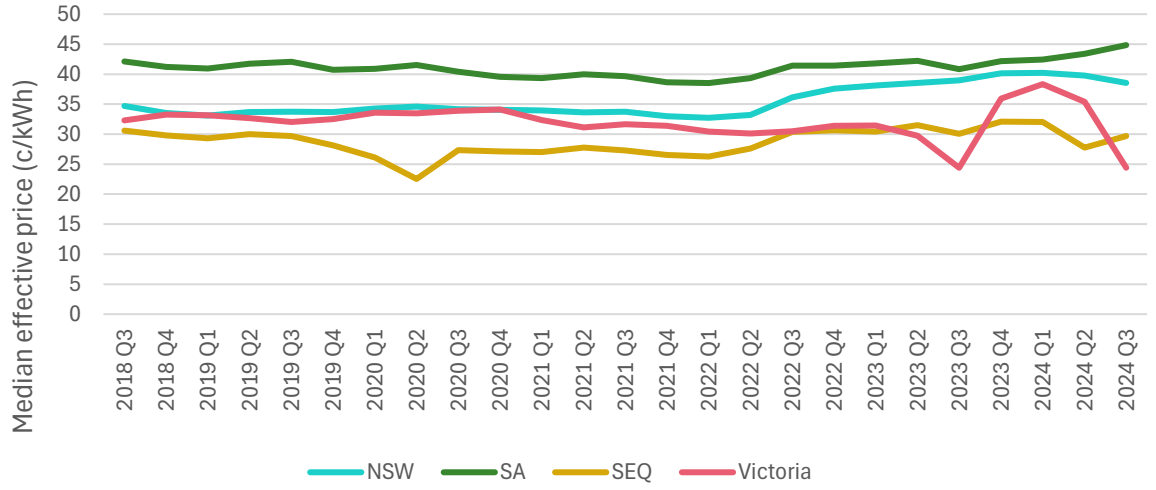
Small businesses received a rebate from the Energy Bill Relief Fund in both 2023–24 and 2024–25, provided they met the usage threshold. The amount funded by the Australian Government remained unchanged ($325), so the change in effective prices for most regions was more stable when compared to the change in residential effective prices (Figure 2.9).

An exception to this trend is in Victoria, where the Energy Bill Relief Fund is paid as a lump sum in July each year, not quarterly as elsewhere. This caused a dip in effective prices in quarter 3 of 2023 and 2024 in Victoria.

Over the longer term, effective prices were relatively stable from 2018 until the start of 2022 but have been trending up more recently in New South Wales and South Australia.

Figure 2.9: Effective price trends for small businesses have varied across regions

Median effective prices paid by small business customers by region, quarter 3 2018 to quarter 3 2024



Source: ACCC analysis of retailer data.

2.2. Many customers experiencing financial difficulties, but concessions are helping

Customers may experience difficulties paying their electricity bills. For some, it might be a temporary circumstance, but others may face enduring difficulties. This is a particularly significant issue due to general cost of living pressures. A significant amount of household energy use is non-discretionary, meaning households have limited ability to reduce this consumption. As noted above, the Australian Government's Energy Bill Relief Fund provides rebates to reduce electricity bills. These rebates were initially available only to concession customers, but now offered to all customers. Some state governments also have their own cost of living rebates and other concessions. See Appendix B for further details.

For this inquiry report, we have updated our methodology on how we define a concession customer from quarter 3 of 2024. Previously, we included all customers who received any form of government rebate, including the Energy Bill Relief Fund. In earlier periods, the Energy Bill Relief Fund had eligibility criteria, with customers generally required to hold a relevant concession card. However, since July 2024, it was extended to all households regardless of their concession card status.

Had we kept the same definition, the number of customers with a concession would become less meaningful as almost all customers would be classified as a concession customer over time.

In our revised methodology, we now only include as concession customers those who received targeted concession payments, such as those with a concession card or who meet specific eligibility criteria. This ensures that the number of customers with a concession only reflects those people who are entitled to a targeted concession support with eligibility criteria. However, this change in definition also means our results are not strictly comparable across different years. In particular, in 2023–24 all residents from South East Queensland received a Cost of Living Rebate and were classified as concession customers. We have excluded these customers in 2024–25, unless they receive another type of

concession. More detail on the different customer category groups, including concession customers, which we focus on in this section are described in Box 2.2.

Box 2.2: Background on customers experiencing financial difficulty

Hardship customers

Hardship customers may be experiencing difficulties due to factors like low or fixed income, a death in the family, household illness, unemployment, or family violence. Retailers are required to develop, maintain, and implement customer hardship policies for their residential customers.[30] Hardship programs are intended to keep a customer engaged with their retailer to reduce their debt and move them to a regular billing cycle, without the need for protection. A retailer's hardship policy must state that, upon being contacted by a customer experiencing hardship, it will consider all of the customer's known circumstances and act fairly and reasonably, in a timely manner, to provide the customer clear information about the assistance available to them and to assist them as soon as practicable.

Retailers can assist customers in their hardship programs in various ways, including by:

- providing flexible payment options, such as payment plans
- advising if the customer is on the right energy plan or if there is a better plan available
- informing customers about government concessions, rebates or relief schemes to help customers pay their energy bills
- advising on ways to reduce energy usage.

Payment-plan customers

Payment plans can often be the first step in helping a customer experiencing payment difficulties due to a sudden or unexpected change in circumstances, such as job loss, unexpected bills or illness. As part of providing support, retailers should work with their customers to develop a payment plan arrangement, which considers a customer's capacity to pay. This may result in a customer paying for less than their usage. Our analysis considers whether a customer is on a payment plan but does not consider the unique arrangements associated with each individual payment plan.

Concession customers

Eligibility for concession status varies by state but usually requires that the customer has the right concession card or meets income thresholds. Further detail on the electricity concessions available in each region is provided in Appendix B. Note that we have changed our definition of a concession customer from July 2024. We had previously included in this category any customer who receives any amount from a government that reduces their bill (this had included the broad-based Cost of Living rebate in Queensland).

We have estimated the number of customers who were on a hardship, payment plan or both (including whether they also had a concession) — see Table 2.3. Note that in quarter 3 2024, we applied a revised method for identifying customers with a concession, which differs from the approach used in previous periods. As a result, comparisons of customer group numbers across years should take these changes into consideration. Further detail is provided in Table 2.3 and Appendix A.

[30] *National Energy Retail Law* s 43; *Electricity Industry Act* (Vic) s 43.

Collectively, the total number of customers on a hardship, payment plan or both increased by about 12,000 people (7%) between quarter 3 2023 and quarter 3 2024 (see Table 2.3). However, while the number of customers in most categories experiencing financial difficulties increased, there was a decline in the total number of customers on payment plans.

These results are consistent with data from the Australian Energy Regulator, which reported an increase in the number of hardship customers between the September quarter 2023 to 2024, but a decline in payment plan customers.[31] More recent data from the Australian Energy Regulator also found that the number of residential customers on hardship programs has declined between June 2024 and December 2024.[32] Electricity retailers indicated that government rebates have contributed to the decline in customers accessing hardship programs.[33] The largest declines in customers accessing payment plans or hardship programs in the year to December 2024 occurred in Queensland, which likely reflects the additional Cost of Living rebate paid from July 2024.

Table 2.3: Many customers are experiencing financial difficulties

Customer groups receiving protections, third quarter, 2023 and 2024

Customer type	Number of customers		Change in customer numbers (2023 to 2024)	
	Quarter 3 2024	*Quarter 3 2023*	*Number*	*Per cent*
Hardship only	*32,380*			
Hardship with a concession	*39,326*			
Total hardship	**71,706**	**55,476**	**16,230**	**29%**
Hardship on a payment plan (no concession)	*23,409*			
Hardship on a payment plan with a concession	*23,402*			
Total hardship on a payment plan	**46,811**	**42,998**	**3,813**	**9%**
Payment plan only	*49,366*			
Payment plan with a concession	*17,728*			
Total payment plan	**67,094**	**74,727**	**-7,633**	**-10%**
Total customers	**185,611**	**173,201**	**12,410**	**7%**

[31] See Australian Energy Regulator, *Retail energy market performance update for Quarter 1, 2024-25*; schedule 3 (for payment plan customers) and schedule 4 (for hardship customers). Note that our results are not directly comparable due to different methodologies. For example, the Australian Energy Regulator reports on the number of customers on hardship programs and the number of customers on payment plans separately, whereas we jointly include some customers (those on *both* a hardship and payment plan).

[32] Australian Energy Regulator (AER), *Schedule 4 – Quarter 2 2024-25 retail performance data*, AER, Australian Government, 18 March 2025, accessed on 27 May 2025.

[33] Australian Energy Regulator (AER), *Key trends – Quarter 2 2024-25 retail performance data*, AER, Australian Government, 18 March 2025, p 10.

Source: ACCC analysis of retailer data.

Note: The number of customers with/without a concession is not displayed for 2023 because it uses a different methodology and results are therefore not comparable. However, the total number of customers on hardship and payment plans presented here is comparable between years.

In last year's inquiry report, we noted that customers with a concession paid less than other types of customers. This trend has continued in the past year, although the 'gap' in the median bills of different customer types who do or do not have a concession has reduced in quarter 3 2024 (Figure 2.10).

Figure 2.10: Concession customers have lower bills

Median bills paid by residential customer groups, all regions combined, quarter 4 2019 to quarter 3 2024

Source: ACCC analysis of retailer data.

2.3. The share of customers on time-of-use and demand tariffs continues to rise

Residential customers are increasingly on time-of-use and demand tariffs. As outlined in Box 2.3, these tariff types are designed to more closely reflect the costs incurred by retailers, generators and distribution networks to supply electricity. These tariffs allow for more efficient pricing and are intended to incentivise customers to consume electricity in off-peak periods when demand for electricity is lower.

Box 2.3: Understanding common tariff structures

Retailers can structure their rates in many ways, but most plans are based around a fixed daily supply charge and a variable usage charge.

Flat tariffs

Flat or single-rate tariffs are charged the same rate per unit of electricity at all times of day.

Time-of-use tariffs

Time-of-use tariffs apply different rates to electricity used at different times of the day. Typically, this is divided into the following periods:

- peak (when electricity costs the most, typically in the evenings of weekdays)
- off-peak (when electricity costs the least, typically overnight and on weekends)
- shoulder (remaining times).

The times of day or week defining these periods can vary between and within regions. Time-of-use rates allow network operators and retailers to price electricity more efficiently, by accounting for the higher infrastructure cost of electricity used at peak times. They incentivise customers to use electricity during off-peak periods when prices are lowest. However, time-of-use tariffs may not suit some customers, such as those with circumstances that require them to use high amounts of electricity during peak periods.

Demand tariffs

Demand tariffs normally include a fixed daily supply charge, a variable usage charge and an extra demand charge. The demand charge is based on power drawn from the grid at specified points in time, measured in kW. This is distinct from the total amount of energy used over time, measured in kWh. Retailers apply demand charges in different ways:

- the highest demand in a period, such as a month or quarter
- an average of peak demand over a period
- different rates for demand charges in different seasons.

Like time-of-use tariffs, demand tariffs are designed to price electricity more efficiently, by accounting for the cost of high-demand periods on electricity infrastructure. They can also incentivise households to change their energy usage habits but may not be well-suited to some customers who cannot change the times they use electricity.

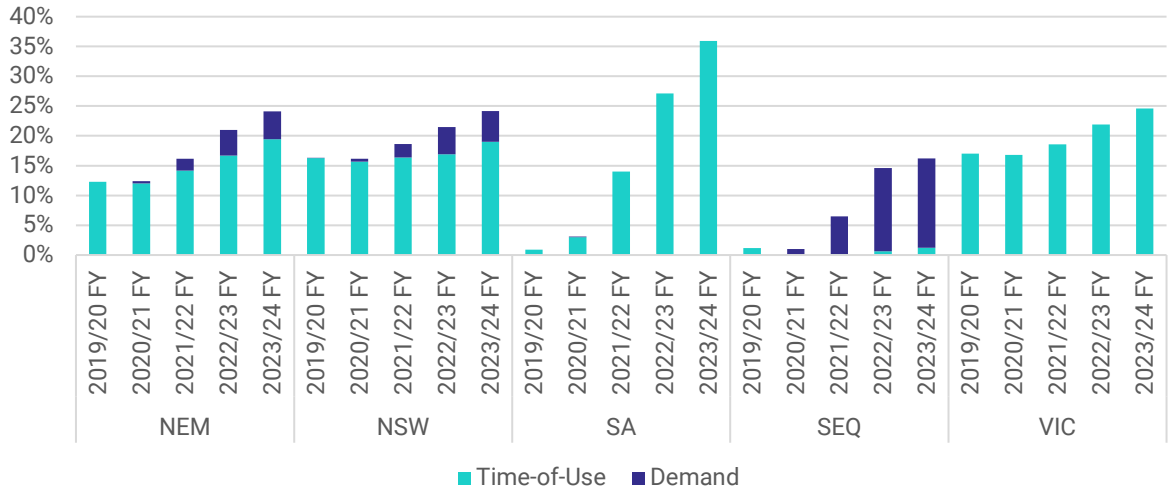
Controlled-load tariffs

Controlled-load tariffs are used for dedicated appliances such as hot water systems or underfloor heating that can run overnight or at off-peak times to take advantage of lower prices. Controlled-load tariffs typically have lower usage rates than those applied to a customer's general electricity usage. Controlled-load tariffs are often used in combination with a flat-rate or time-of-use tariff and are more prevalent in some regions than others.

Figure 2.11 shows that the proportion of customers on time-of-use and demand tariffs increased in all regions between 2019–20 and 2023–24. There are more residential customers on time-of-use tariffs than demand tariffs in New South Wales, South Australia and Victoria. In contrast, demand tariffs are much more prevalent in South East Queensland.

Figure 2.11: Share of residential customers on time-of-use and demand tariffs increases across each region in 2023–24

Proportion of residential customers on time-of-use and demand tariffs by region from 2019–20 to 2023–24



Source: ACCC analysis of retailer billing data.

2.3.1. Regulatory changes and new energy resources are guiding customers towards time-of-use and demand tariffs

Customers will increasingly be moving to time-of-use and demand tariffs due to regulatory reforms and the growing adoption of consumer energy resources. The accelerated rollout of smart meters, mandated by the Australian Energy Market Commission's November 2024 rule changes, increases the ability to access these tariff options.[34]

Time-of-use and demand tariffs can be suited for households with energy resources such as solar photovoltaic systems, batteries and electric vehicles. These tariffs are intended to provide price signals encouraging customers to shift their usage to off-peak times or manage peak demand, allowing them to maximise the value of their resources and reduce bills.

In addition, customers may be able to join programs offered by retailers including virtual power plants and behavioural demand response programs. By participating in these programs, customers could earn credits or receive discounts on their bills. For detailed discussion on new energy services and how they affect customer bills, refer to Chapter 3.

Although time-of-use and demand tariffs can benefit customers, they may not suit those who cannot readily adapt their usage patterns in response or whose individual circumstances are not compatible. To provide some additional safeguards during the rollout

[34] Australian Energy Market Commission (AEMC), *Accelerating smart meter deployment*, AEMC, 28 November 2024, accessed 14 May 2025.

of smart meters, new measures have been introduced. For the first two years after a smart meter is installed, customers cannot be switched to a new tariff type without providing explicit informed consent. After this period, retailers may move customers to a new tariff type with sufficient notice.[35]

Another rule change requires designated retailers to offer flat rate tariffs to customers with a smart meter.[36] These benefit customers who may find time-of-use use and demand tariffs complex. For this requirement to apply, jurisdictions must opt in under the National Energy Retail Law.[37] Currently, Queensland is the only region mandating that designated retailers provide a standing offer with a flat rate.

2.3.2. Customers on time-of-use and demand tariffs use more electricity and have higher bills to those on flat rates

Time-of-use and demand tariffs can result in lower bills for customers who are well informed about how these tariffs work and are able to shift their electricity usage outside of peak periods. However, residential customers on time-of-use and demand tariffs have generally experienced higher bills compared to those on flat rates. This is largely due to varying individual usage patterns. During the past year, customers on time-of-use tariffs had a median usage that was 12% higher than flat rate customers. Demand customers also had a median usage that was 32% higher. For customers with controlled load, those on time-of-use tariffs had a median usage that was 14% higher than flat rate customers.

It is important to consider differences in usage when comparing billing outcomes between customers on different tariffs, and when comparing these results with the pricing analysis from our December 2024 report. In that report we found that prices for customers on time-of-use were 3.3% lower than flat rate offers and had experienced larger price declines compared to the previous year. We also found customers on flat rate offers with a demand charge had faced prices that were 13.7% higher than those without a demand charge. For time-of-use offers with demand charges, were 7.2% higher than those offers without demand charges.[38]

Usage is the primary factor behind the differences between our billing results and the pricing outcomes reported in December 2024. The pricing analysis in the December 2024 report was based on calculated annual bills, using actual pricing data from retailers and benchmark usage assumptions. In comparison, our billing results reflect actual usage data collected from customers. Another consideration is the billing dataset contains customer usage but does not include the underlying supply and usage rates, which would help us to compare customer outcomes irrespective of usage.

Figure 2.12 shows that non-solar residential customers on time-of-use and demand tariffs had higher median bills than those on flat rates during this period. However, an exception occurred in the second quarter of 2024 when customers on demand tariffs had lower median bills compared to flat rate customers. This anomaly is primary due to Queensland customers receiving both the Cost of Living rebate and the expanded Energy Bill Relief Fund

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35 Australian Energy Market Commission (AEMC), *Rule determination Accelerating smart meter deployment*, AEMC, 28 November 2024, pp 29–30.

36 Australian Energy Market Commission (AEMC), *AEMC finalises landmark reform to accelerate smart meter rollout, AEMC, 2024, accessed 15 June 2025.*

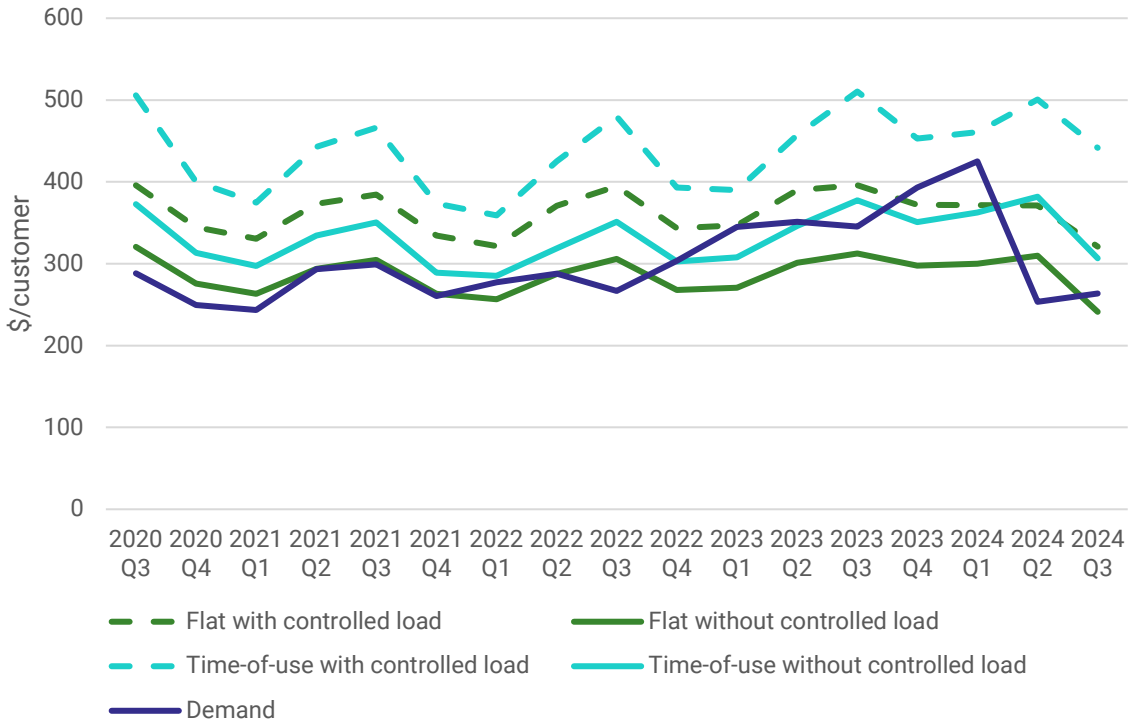
37 Australian Energy Market Commission (AEMC), *Rule determination Accelerating smart meter deployment*, AEMC, 28 November 2024, p 30.

38 Australian Competition and Consumer Commission (ACCC), *Inquiry into the National Electricity Market: December 2024*, ACCC, Australian Government, 30 December 2024, p 3.

from 1 July 2024, which significantly reduced their median bills. As shown in Figure 2.12 most customers on demand tariffs are located in Queensland.

Figure 2.12: Customers on time-of-use and demand tariffs pay more than those on flat tariffs

Median bill paid by residential customers by tariff type, excluding solar customers, all regions combined, from quarter 3 of 2020 to quarter 3 of 2024, nominal dollars, excluding GST



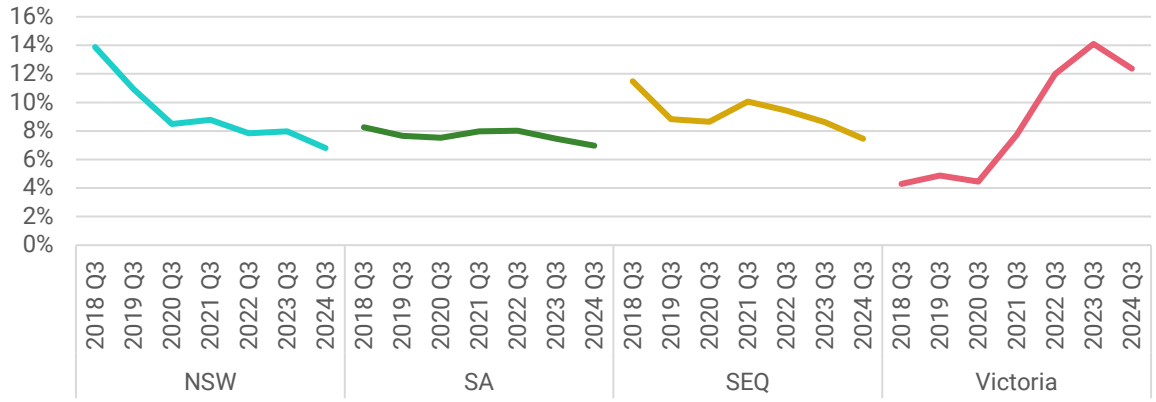
Source: ACCC analysis of retailer billing data.

2.4. Customers on market offers have lower bills

The share of customers on standing offers continued its downward trend in most regions between 2023 and 2024 (Figure 2.13). Meanwhile in Victoria, the share of customers on standing offers has levelled off after recent increases. In previous reports, we noted that more customers were on standing offers in Victoria due to retailer requirements to roll customers onto standing offers at the end of a fixed-term contract if they do not give explicit informed consent to be moved onto a different offer. The recent decline in the share of customers on standing offers since 2023 in Victoria suggests more customers are engaging in the market.

Figure 2.13: The share of customers on standing offers is trending down in New South Wales and South East Queensland

Share of residential customers on standing offers (per cent), by NEM region, quarter 3, 2018 to 2024

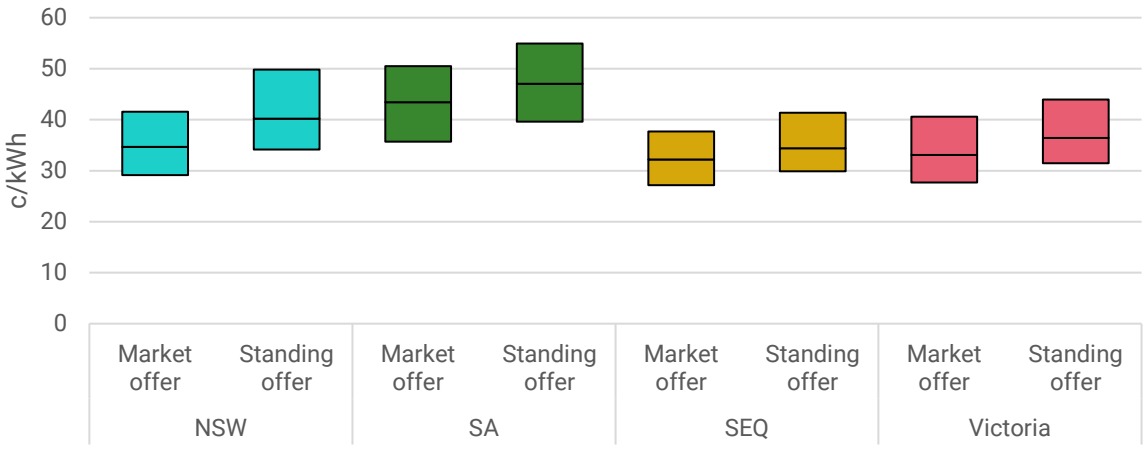


Source: ACCC analysis of retailer billing data.

Previous ACCC inquiry reports have shown that customers on standing offers tend to have higher effective prices.39 While there is a large range of prices for both standing offer and market offer customers, this pattern remained in 2024, with the median effective price for customers on standing offers exceeding that for customers on market offers across all NEM regions (Figure 2.14). This difference in median effective prices for standing offer and market offer customers ranged from about 2 c/kWh in South East Queensland to 6 c/kWh in New South Wales.

Figure 2.14: Customers on market offers tend to pay less than customers on standing offers

Distribution of effective prices (without rebates) for residential customers on standing and market offers, by NEM region, quarter 3 2024



Source: ACCC analysis of retailer billing data.

Note: Boxes represent the interquartile range (effective prices at between the 25th and 75th percentiles of the distribution of customers). The black horizontal line in each box is the median effective price.

39 Australia Competition and Consumer Commission (ACCC), *Inquiry into the National Electricity Market: June 2023*, ACCC, Australian Government, 30 June 2023, pp 30–32.

2.5. Solar customers continue to grow and have lower bills

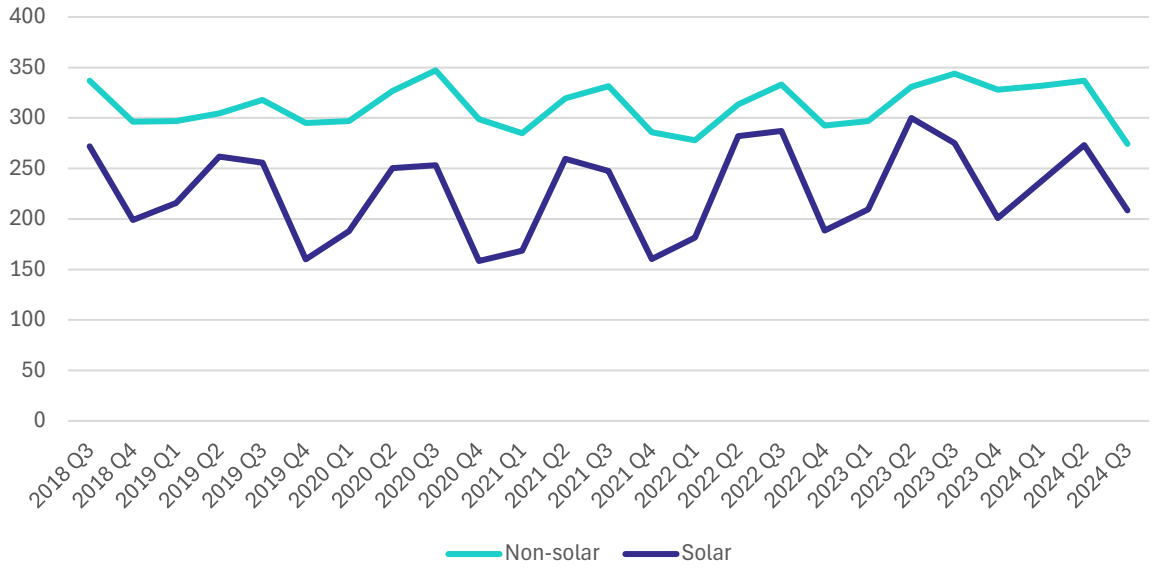
By installing solar panels, consumers are often able to reduce their electricity bills by both reducing usage from the grid and by exporting excess electricity back to the grid in exchange for solar feed-in tariff credits.

Figure 2.15 show solar customers consistently have lower median bills compared to non-solar customers across all regions. During the 2023–24 financial year, solar customers had about 28% lower median bill. Additionally, over the same period, solar customers generally consumed 4% more electricity than non-solar customers.

Seasonal trends are also evident, in cooler months, the difference in median bills between the two groups narrows, while in warmer months, the gap widens. The pattern in cooler months is due to increased usage and lower generation resulting in lower exports back to the grid and therefore lower feed-in credits on customer bills.

Figure 2.15: Residential customers with solar panels have lower electricity bills

Median bills for residential customers with and without solar photovoltaic systems, by regions, including rebates, from quarter 3 2022 to quarter 3 2024



Source: ACCC analysis of retailer billing data.

2.5.1. More customers are choosing solar for environmental concerns and desire for energy independence

When solar panels first became available, most state and territory governments incentivised installation through generous solar feed-in tariff schemes and subsidies for solar photovoltaic systems. The objectives of these schemes included making solar photovoltaic systems more affordable and stimulating the solar installation industry. While these schemes are now closed and many have expired, legacy customers continue to benefit from premium solar feed-in tariff rates which exceed the wholesale and sometimes the retail price of electricity in the relevant region.

Table 2.4: Remaining premium feed-in tariff schemes and expiry dates

State	Rate (c/kWh)	Expiry Date
Queensland	44	1 July 2028
South Australia	44	30 June 2028

Source: Department of Natural Resources, Mines and Energy (DNRME), *Queensland Solar Bonus Scheme: Policy Guide*, DNRME, Queensland Government, 2024, accessed 13 May 2025; Department for Energy and Mining, *Solar feed-in payments*, sa.gov.au, 2024, accessed 13 May 2025.

Customers who have recently installed solar photovoltaic systems and are on market retail contracts still receive negotiated feed-in tariffs from retailers, which are not subsidised. Retailers can generally set their own feed-in tariff rates.

In Victoria, the Essential Services Commission previously set the minimum feed-in tariffs that retailers must offer to customers. For 2024–25, the minimum flat feed-in tariff is 3.3 cents per kWh, while time-varying feed in tariffs range from 2.1 to 8.4 cents per kWh depending on the time of day.[40] However, from 1 July 2025, the Victorian Government deregulated the setting of minimum feed-in tariffs following an amendment to the Electricity Industry Act 2000.[41] However, retailers cannot set feed-in tariffs below zero cents per kWh. This decision was driven by continued decline in minimum feed-in tariffs, which has occurred as daytime wholesale electricity prices have fallen during periods of high solar generation. As a result, the Essential Services Commissions final determination for 2025–26 has set the minimum feed-in tariff at near zero.[42]

In New South Wales, the Independent Pricing and Regulatory Tribunal publishes annual solar feed-in tariff benchmarks. These benchmarks help consumers understand whether retailers are offering reasonable feed-in tariff and allow them to compare retail offers effectively. Unlike the Essential Services Commission in Victoria, the benchmarks serve only as guidance for consumers and retailers on reasonable solar feed-in tariff rates rather than being mandatory regulations. The all-day solar feed-in tariff benchmark range for 2024–25 was 4.9 to 6.3 cents per kWh,[43] while the 2025–26 benchmark range is set to be 4.8 to 7.3 cents per kWh.[44]

As shown in Figure 2.16, effective solar feed-in tariff rates, which are calculated by taking the total solar feed-in rebate and dividing by the total volume of electricity exported by a customer to the grid in a period, declined between 2020 and 2024 in all regions.

40 Essential Services Commission (ESC), *Minimum feed-in tariff review 2024–25*, ESC, 27 February 2024, accessed on 21 May 2025.

41 Department of Energy, Environment and Climate Change (DCCEEW), *Solar feed-in tariff*, Victorian Government, 2025, accessed on 2 June 2025.

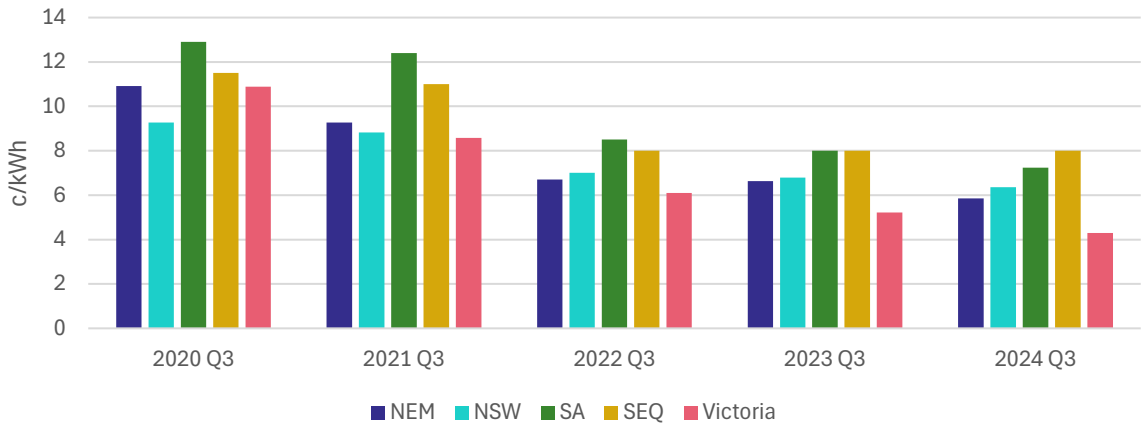
42 Essential Services Commission (ESC), *Minimum feed-in tariff review 2025–26*, ESC, 27 January 2025, accessed on 21 May 2025

43 Independent Pricing and Regulatory Tribunal (IPART), *Final Report – Solar feed-in benchmark ranges for 2024–25 – May 2024*, IPART, 2024, accessed on 27 May 2025.

44 Independent Pricing and Regulatory Tribunal (IPART), *Final Report – Solar feed-in benchmark ranges for 2025–26 – May 2025*, IPART, 2025, accessed on 27 May 2025.

Figure 2.16: Solar feed-in tariffs for residential customers are decreasing

Median effective solar feed-in tariffs received by residential customers by region, third quarter, from 2020 to 2024

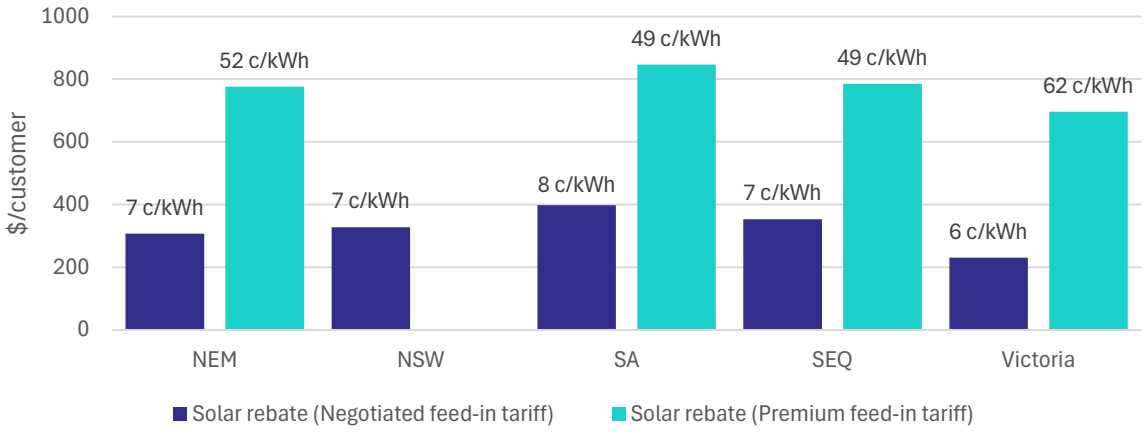


Source: ACCC analysis of retailer billing data.

Figure 2.17 shows the median residential solar customer with premium rates earned $780 in financial year 2023–24 compared to $307 for the median residential solar customer with negotiated rates. This occurred despite customers on negotiated rates supplying much more electricity to the grid (supply amounts not shown in Figure). The large difference in feed-in tariff rebates occurs due to the substantial difference in feed-in tariffs. The effective feed-in tariff for median customer on negotiated feed-in tariff was 52c/kwh, more than 7 times higher than the median customer on negotiated feed-in tariffs (7c/kWh).

Figure 2.17: Solar customers on premium feed-in tariffs continued to receive the largest benefits

Annual median solar rebates and effective feed-in tariffs received by residential customers, 2023–24 financial year, excluding GST



Source: ACCC analysis of retailer billing data.

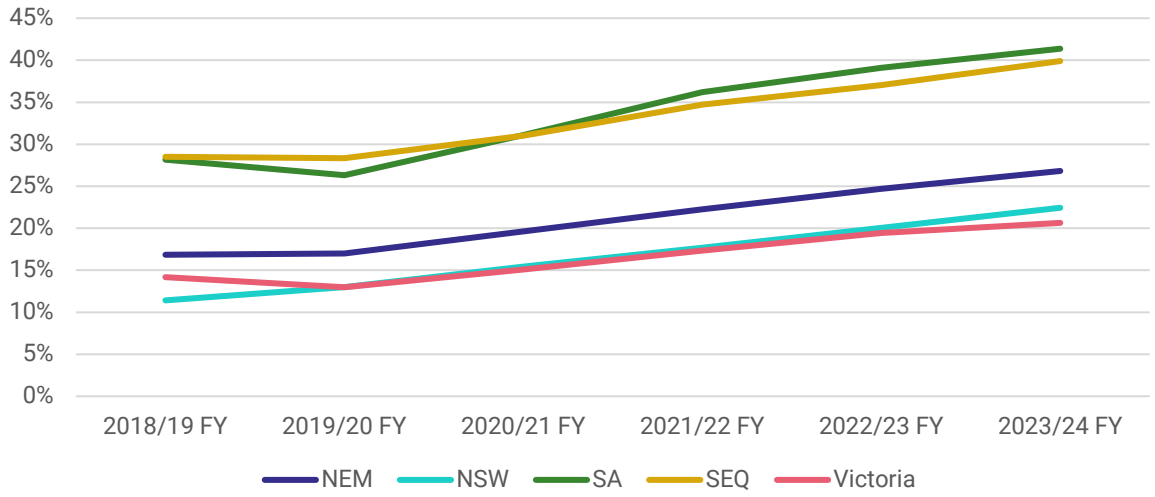
Note: New South Wales Government have entirely closed their premium feed-in tariff scheme, and the Victorian Government premium feed-in tariff scheme ended on 1 November 2024.[45]

[45] Department of Energy, Environment and Climate Action, *Solar premium feed-in tariff*, Victorian Government, 2025, accessed 13 May 2025.

Despite the decreasing feed-in tariff rates over the years, we continue to observe residential customers opting for solar. In Figure 2.18, we observe an increasing trend in the proportion of residential solar customers in all regions.

Figure 2.18: More residential customers continue opting for solar despite the lower solar feed-in tariffs

Proportion of solar residential customers by region from 2018–19 to 2023–24



Source: ACCC analysis of retailer billing data.

Although solar feed-in tariffs are declining, solar customers still benefit by using the electricity that they generate. By using their own solar power, they avoid buying electricity from their retailer at higher retail rates.

Falling feed-in tariffs also encourage solar households to consider other energy resources, such as home battery storage, and to participate in new energy services instead of relying on credits from exporting to the grid. In Chapter 3, we will provide more details about these emerging new energy services and products and explain how they can reduce your bill further.

3. Emerging markets for new energy services

Key points

- Signs of stronger competition are observable in the emerging market in which virtual power plant services are supplied, with over 75% of customers being served by smaller providers, and clear product innovation and differentiation developing. Most electric vehicle tariff and behavioural demand response program customers are served by the big 3 retailers, and we observed some product differentiation for these services.
- Consumer investments in batteries and electric vehicles are increasing, supported by state and federal government incentives. The combined storage capacity of batteries connected to the grid in New South Wales, South Australia, Victoria and South East Queensland increased 73% from quarter 4 of 2022 to quarter 4 of 2024.
- There is a significant gap between the number of customers with grid connected batteries and those participating in virtual power plants. However, the gap is much smaller in New South Wales. Where governments seek to provide battery subsidies, the ACCC supports these being proportional to the level of system benefit provided, recognising that having a battery provides both consumer and wider system benefits, and that coordination delivers even greater system benefits.
- Customers with combined solar and battery systems have lower bills than other customers, including those who only have solar. Combined solar and battery systems allow customers to reduce their electricity usage from the grid, both overall and during peak times. Customers who are also participating in virtual power plants have even lower bills, as they have even lower grid usage and also receive credits for virtual power plant participation.
- Solar and battery systems are significant investments for consumers. Illustrative modelling of a combined solar and battery payback period shows the financial benefits of investing are largely driven by savings from self-consumption. However, virtual power plant operators have the ability to dispatch more power from customer assets than they are currently. If the amount of power dispatched was to materially increase, the calculated benefits to consumers from self-consumption could reduce.
- Our modelling highlights the complexity of the consumer investment decision, which is affected by many factors: household consumption profile, solar and battery system size, solar intensity, and availability of subsidies in the geographic region. As we consider in Chapter 4, this is a complex decision, and consumers should be supported by reliable and accurate information that accounts for their individual circumstances.
- Ensuring the right policy settings are in place will support efficient take up and promote integration of consumer energy resources into the National Electricity Market to deliver system wide benefits. Competition and consumer guardrails should be central to reforms aimed to unlock new value streams from coordination.
- On the supply side, effective competition between virtual power plant providers will ensure the benefits of coordination are passed on to consumers. Competition should also be central to reforms aimed to unlock new value streams from coordination.
- On the demand side, competition will be promoted if consumers are able to confidently engage in these emerging markets with appropriate guardrails in place (Chapter 4).

In this chapter, we assess how the supply of new energy services is evolving – their size, competitiveness and the billing outcomes they deliver to the customers that take them up.

We examine:

- behavioural demand response programs
- electric vehicle tariffs
- virtual power plants.

We also consider in greater detail for virtual power plants how:

- the coordination of customers' combined solar and battery systems delivers value to customers, operators and the broader electricity system
- participation affects the customer investment decision for combined solar and battery systems.
- competition and government reforms could maximise consumer and system benefits.

This chapter draws on information gathered through compulsory information gathering notices from 8 retailers, as well as survey responses from a total of 19 energy service providers. We outline our data collection and analysis used to inform this chapter in Chapter 1 and Appendix A. We are confident our analysis of new energy services covers most but not all customers.

3.1 Behavioural demand response programs currently offer modest financial rewards

Behavioural demand response programs invite participating customers to be notified by their retailer to reduce or shift their energy usage at a point in time below their benchmark consumption during times of peak demand and receive a benefit in return.[46] Benefits for doing so include financial and non-financial rewards such as bill credits, gift cards or other rewards. Demand response programs are one way for energy providers to reduce the demand on the grid at a given time and stabilise the balance between electricity demand and supply.

Many behavioural demand response programs are considered trials by retailers or other providers. The way they are designed and operated may change in the future to become more efficient and effective.

Behavioural demand response programs require customers to actively participate in reducing their usage, following these notifications. Other demand response programs exist, in which usage reductions are automated through external control of appliances (such as a retailer turning down a customer's air conditioning). These automated programs are not included in our discussion of demand response programs below.

Box 3.1 includes some examples of behavioural demand response programs. While they generally follow the same notification and assessment process, they differ in the incentives they use to encourage participation, for example a fixed credit amount or a variable credit that relates to energy saved.

[46] Peak demand is when the system demand is reaching or exceeding the electricity supply available.

Box 3.1: Different behavioural demand response programs available

EnergyAustralia's PowerResponse[47]

Customers receive $1 each time they participate in a PowerResponse event and reduce usage by any amount. They then receive $2/kWh of energy saved during an event.

ENGIE's Reduce and Reward[48]

Customers who can reduce their electricity consumption during the event by at least 30% receive a $5 credit on their next bill. Customers who fall in the top 2% of reductions receive a $100 credit.

Origin's Spike[49]

If they successfully participate, customers can earn a free hour of electricity of up to 35 kWh at a time of their choosing (except 4pm-9pm, which takes the form of a credit on the customer's bill for the cost of that hour of electricity use.

3.1.1. Customers can sign up to behavioural demand response programs but not everyone will be invited to participate

Our billing and survey results show that there are approximately 839,000 residential customers and 3,600 small business customers in New South Wales, South Australia, Queensland and Victoria that are signed up to participate in behavioural demand response programs. This represents over 9% of residential customers in these states, though less than 0.5% of small business customers. The number of residential customers captured by our S95ZK Notices grew significantly between June 2023 and June 2024 but has decreased slightly from June 2024 to January 2025 (Figure 3.1).

These programs are often structured as add-ons to existing retail plans. Energy providers do not necessarily contact every customer who has opted to participate in a behavioural demand response program. The large number of residential customer numbers is likely driven by these approaches by retailers and because these services do not require an upfront investment from the customer.

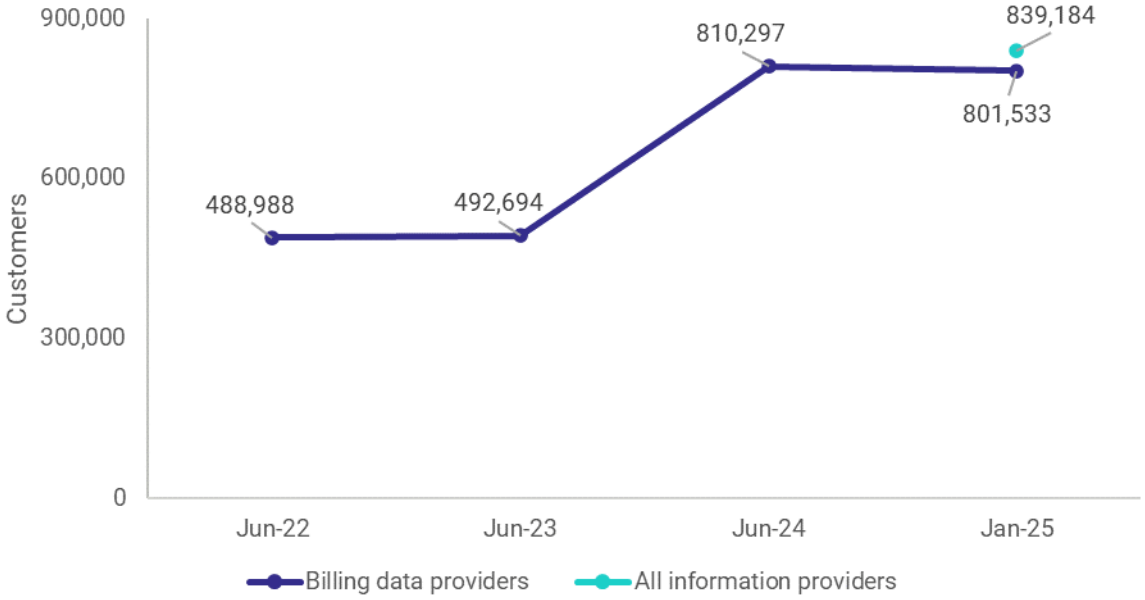
47 EnergyAustralia *Power Response*, accessed 19 May 2025.

48 ENGIE *Reduce and Reward*, accessed 19 May 2025.

49 Origin *Spike*, accessed 19 May 2025.

Figure 3.1: Customers participating in behavioural response programs increase significantly since 2022

Total residential behavioural demand customer numbers for retailers, June 2022 to January 2025



Source: ACCC analysis of retailers' data.

Note: Survey response data only available for January 2025.

Behavioural demand response programs use smart meters to read real time usage data. Victoria has a smart meter penetration over 99% and as a result, the highest largest number of customers participating in behavioural demand response programs.[50] The mandatory rollout of smart meters in the state has allowed for more customers to be eligible for behavioural demand response programs.

Survey respondents anticipated significant interest from customers in this product in the next 5 years. They also thought customers would engage with this product primarily to reduce their bill and have greater consumer control (see Appendix E).

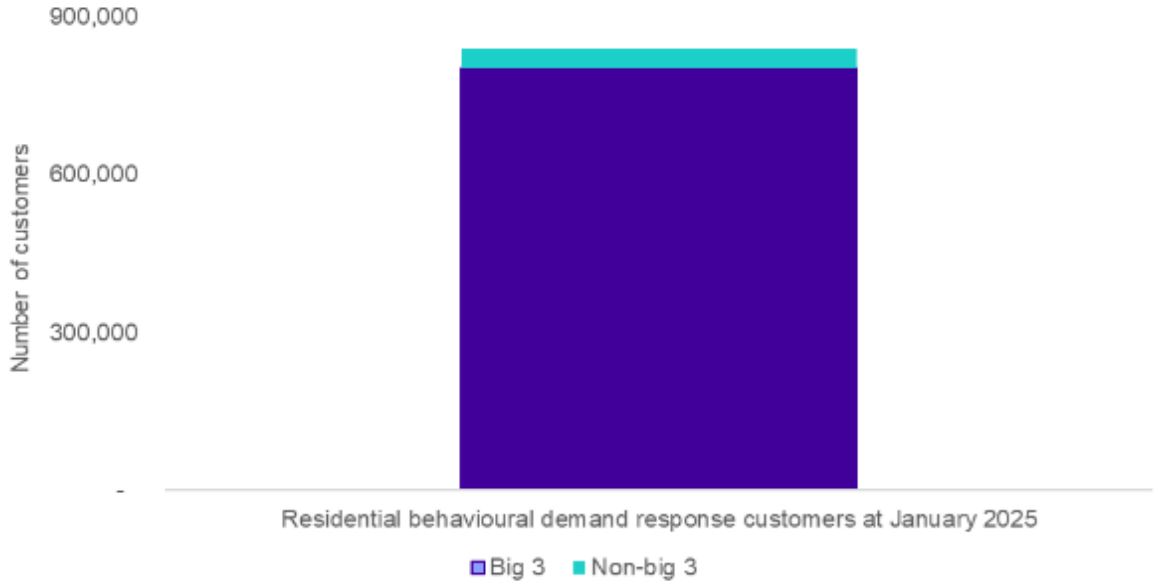
3.1.2. The big 3 retailers serve most residential behavioural demand response customers

We identified 5 retailers offering behavioural demand response programs to residential customers and 4 to small business customers in January 2025. The big 3 retailers serve the vast majority of residential behavioural demand response customers (Figure 3.2) but this does not carry over to small business customers.

[50] Australian Energy Market Commission, *AEMC finalises landmark reform to accelerate smart meter rollout*, accessed 20 May 2025.

Figure 3.2: Big 3 retailers are responsible for over 95% of residential behavioural demand response program customers

Behavioural demand response residential customers share, all regions combined, January 2025



Source: ACCC analysis of retailers' data.

There are significantly fewer small business customers participating in behavioural demand response programs than residential customers. Non-big 3 energy providers have a stronger presence in supplying this service to small business customers than residential customers.

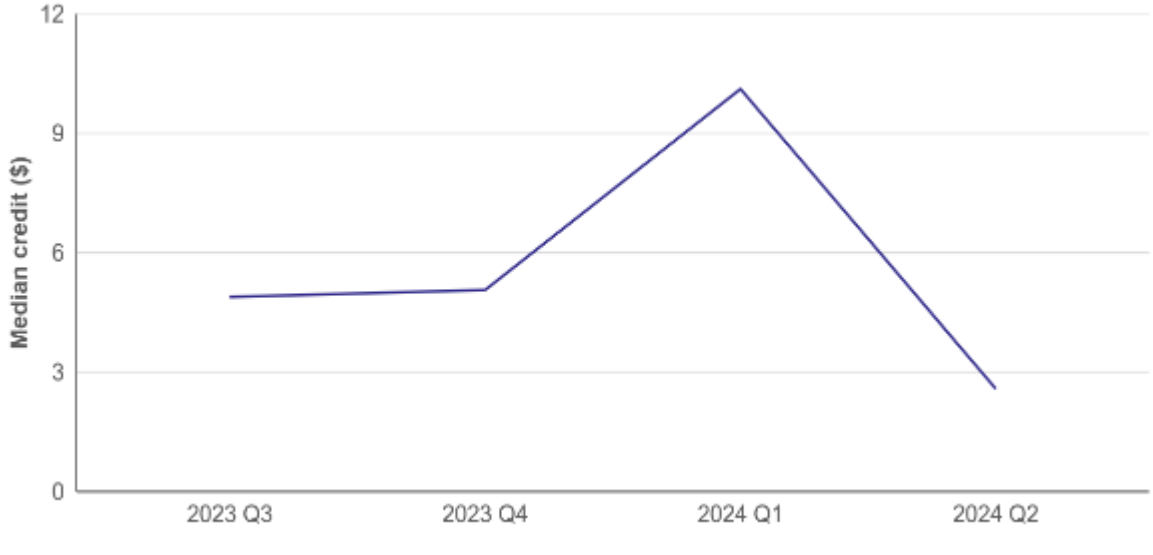
Survey responses were somewhat mixed on the barriers to offering behavioural demand response programs. 55.6% of survey respondents considered there to be minor to no barriers, while 5.9% of respondents identified extremely strong barriers including notification technology (see Appendix E).

3.1.3. Behavioural demand response programs have high participation rates but offer limited bill benefits

We identified that the relative financial benefit for customers participating in demand response events is very limited. The median annual value of behavioural demand response credits among those who received a bill credit for participating was $5.86 per customer, which is less than 1% of the median annual bill for regular billing customers in 2023–24 ($1,264). Figure 3.3 shows that the median credit varied seasonally, with a spike in quarter 1 of 2024, coinciding with the greater likelihood of events during summer months when demand spikes are more common.

Figure 3.3: Higher behavioural demand credits are possible during the summer peak

Quarterly median credit return for behavioural demand response participation, quarter 3 of 2023 to quarter 2 of 2024



Source: ACCC analysis of retailers' data.

Note: Data for Q3 2024 has been omitted for confidentiality reasons.

We considered individual customer bills to observe how often customers that received a notification of a demand response even occurring, successfully participated in these events. We found that 43% of bills that received a notification also received a reward from successful participation in a behavioural demand event, meaning they successfully reduced their consumption to the required levels in at least one event.[51]

Given enough customers, behavioural demand programs could provide system-wide benefits by reducing grid usage at times of acute peak demands, when the system is most constrained. Although with fiscal motivations being an important factor in new energy service take up, the currently low billing impact for participating may not provide a sufficient incentive for customers to sign up to such programs.

3.2. Electric vehicle tariffs encourage vehicle charging when prices are lowest

Electric vehicle tariff offers provide dedicated windows and rates for customers to charge their electric vehicles at home. These offers vary on eligibility conditions, charging times, and rates. Smart meters are typically required to be eligible for an electric vehicle charging tariff. Box 3.2 includes examples of these offer structures.

[51] Note, we cannot observe *how many* demand response event notifications a customer received or how many times they were successful in participating in these events for each individual.

Box 3.2: Different electric vehicles charging tariffs

AGL's Nightsaver EV Plan[52]

Customers are charged 8c/kWh for electric vehicle charging between 12am and 6am.

Origin's EV Power Up[53]

Customers with a compatible electric vehicle and the Origin app are charged 8c/kWh for electric vehicle charging during a scheduled charge session. The times for scheduled charge sessions are decided by Origin based on when there is excess solar during the day or when demand is low overnight.

Momentum's EV Does It[54]

Customers receive a $100 public charging voucher to use at an Evie charging station in Australia, and lower off-peak rates which require them to be on a time-of-use-tariff.

OVO Energy's The EV Plan[55]

Customers are charged 8c/kWh during 12am to 6am and 0c/kWh between 11am to 2pm for electric vehicle charging. OVO also offers an app to customers with a feature, evControl, for eligible electric vehicles that provides the customer with information on their vehicle usage, charging and associated costs. It also enables customers to manage their charging times with the purpose to minimise cost.

Powershop's EV Night Saver and EV Day Saver[56]

Customers receive a $100 sign up credit on their first bill and can choose between a day saver or night saver plan where they are charged 4.99c/kWh between 12am and 4am or $0/kWh between 12pm to 2pm respectively.

Electric vehicle tariffs can vary in complexity. Simpler offers provide exclusive 'super off-peak' time of use windows to electric vehicle owners, which provide reduced usage charges for all household or workplace usage at certain times. Super off-peaks are usually available when wholesale prices are low, such as in the middle of the day when solar power in the grid is readily available, or overnight when demand for electricity is low. Other offers can be more dynamic in their approach and involve optimising when to charge a vehicle, through an app. Both ways assist retailers in managing energy during particular times of the day.

Customers can also enter into an arrangement with their retailer to automate and schedule their electric vehicle charging via an app, at times that provide benefit to the customer and retailer. This option needs the consent of the owner, appropriate software in place and the customer can override the retailer's charging schedule at any time (that is, if they need the car charged urgently).

52 AGL, *Night Saver EV electricity plan*, accessed 30 April 2025.

53 Origin, *EV Power Up*, accessed 30 April 2025.

54 Momentum, *EV Does It plan*, accessed 30 April 2025.

55 OVO Energy, *The EV Plan*, accessed 30 April 2025.

56 Powershop, *EV plans*, accessed 30 April 2025.

Box 3.3: Current electric vehicle tariff limitations and additional considerations

Fast charging hardware

Electric vehicles can take up to 30 hours to do a complete charge through a standard power point, depending on a number of factors.[57] The charging windows incorporated in many electric vehicle tariff plans may require a customer to invest in fast charging hardware to maximise their charging capabilities.

Fast charging hardware allows a customer to optimise the value they get from reduced tariffs during charging windows. However, this investment is not insignificant (for example: $2,000 to $2,500 including installation and GST) and needs to be taken into consideration as part of the customer's total investment decision.

Retailers can only schedule charging for specific car makes and models

Retailers must gain remote access to the manufacturers' software installed on a customer's electric vehicle to provide more sophisticated electric vehicle tariffs that use scheduled charging. Retailer apps that monitor energy usage and control smart appliances are enabled by third parties that develop digital energy management platforms.

Platform providers must individually negotiate access through application programming interfaces (APIs) with each individual equipment manufacturer. This makes it unlikely that any platform used by a retailer can provide customer services like scheduled charging for all makes and models, limiting their ability to offer more sophisticated and innovative electric vehicle tariff offers.

3.2.1. Electric vehicle tariffs are being taken up rapidly

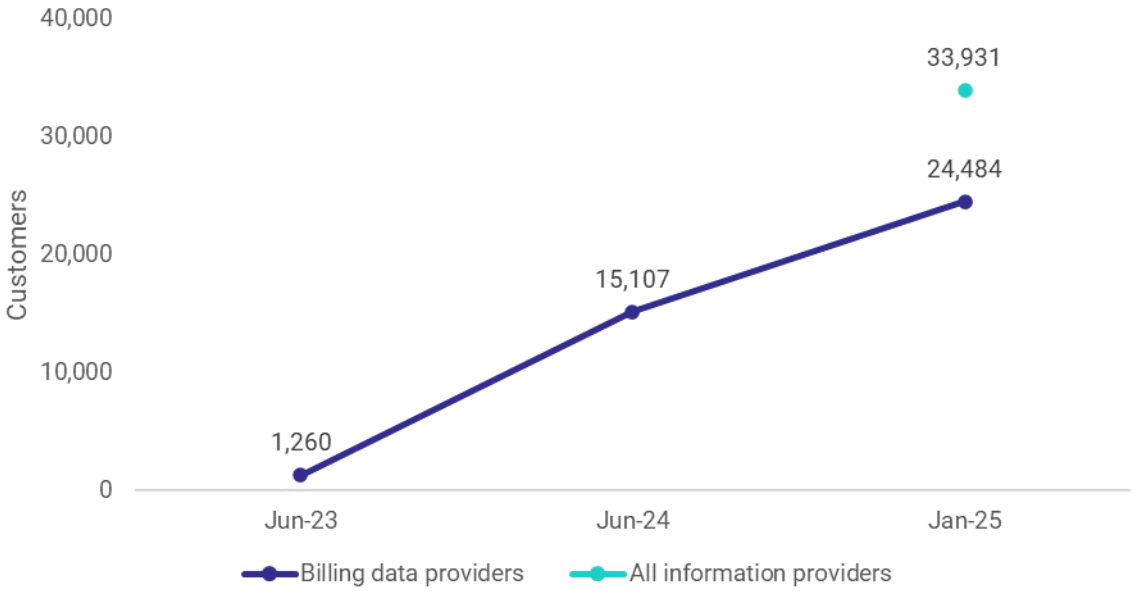
Our billing data and survey results show that there are about 33,900 customers on electric vehicle tariffs in the NEM as at January 2025 (Figure 3.4).[58] Our analysis of notice recipients' data shows that there has been steady growth in the take up of electric vehicle tariffs in the past 2 years. This may be driven by growing awareness of electric vehicle tariffs in tandem with rising adoption rates for electric vehicles.

[57] https://rac.com.au/horizons/drive/ev-charging-at-home, accessed 16 May 2025.

[58] We acknowledge there may be retailers not captured in our sample that offer electric vehicle tariffs, but do not consider this to be significant as our sample covered 95% of residential customers in NSW, SA, VIC and SEQ.

Figure 3.4: Customers take up of electric vehicle tariffs saw a dramatic jump between June 2023 and June 2024

Number of customers using an electric vehicle tariff, all regions combined, June 2023 to January 2025



Source: ACCC analysis of retailers' data and survey data.

Note: Survey response data only available for January 2025.

Research indicates that electric vehicle owners are predominantly male, highly educated, 45-54 years of age, living in houses, working full time or retired and have a high household income. These demographics may change as more customers invest in an electric vehicle.[59]

While the current take up of electric vehicle tariffs is material, ongoing customer interest in the service is lagging behind investment in electric vehicles themselves. Survey responses indicated providers expected electric vehicle tariffs to have a significantly lower level of interest than other new energy services over the next 5 years (see Appendix E).

Energy Consumers Australia research also supports this more muted consumer interest, reporting that only 39% of households are extremely or quite interested in electric vehicles.[60] Further, they reported that customers are more likely to think 'making houses more efficient' and 'encouraging more rooftop solar' is important for reducing emissions than 'increasing use of electric cars'.[61]

[59] Evenergi, *EV Owners Demographics and Behaviours*, Ausgrid, 2023.

[60] Energy Consumers Australia, *Consumer perspectives on Australia's energy transition, December 2024*, 2024, p 3.

[61] Energy Consumers Australia, *Consumer perspectives on Australia's energy transition, December 2024*, 2024, p 7.

There is an opportunity to optimise more of the electric vehicle fleet to benefit the electricity system

There are approximately 210,000 battery electric vehicles on the roads in New South Wales, South Australia, Victoria and Queensland as of December 2024.[62] This indicates that only approximately 16% of electric vehicle owners in these states are on electric vehicle tariffs.[63] This may reflect low awareness of these types of electricity plans, and reliance on the other charging options available to electric vehicle owners.

It also indicates that there is scope for further take up of electric vehicle tariffs for customers who can charge their vehicle at home. Individual circumstances (such as access to off-street parking) may impact a customer's ability to charge at home and to utilise an electric vehicle tariff. For customers that do take them up, electric vehicle tariffs incentivise customers to shift usage to times when electricity prices are low and networks are less congested.

Better optimisation of electric vehicle charging could deliver additional benefits to the grid, retailers and customers, especially as technological advancements (for example vehicle to grid capability) and regulatory frameworks adapt.

3.2.2. Big 3 retailers have largest share of electric vehicle tariff customers

We identified 8 retailers currently offering electric vehicle tariffs. The big 3 retailers serve over 60% of identified customers on electric vehicle tariffs (Figure 3.5). This customer share is of a similar magnitude to their broader combined retail electricity market share for residential customers nationally.[64]

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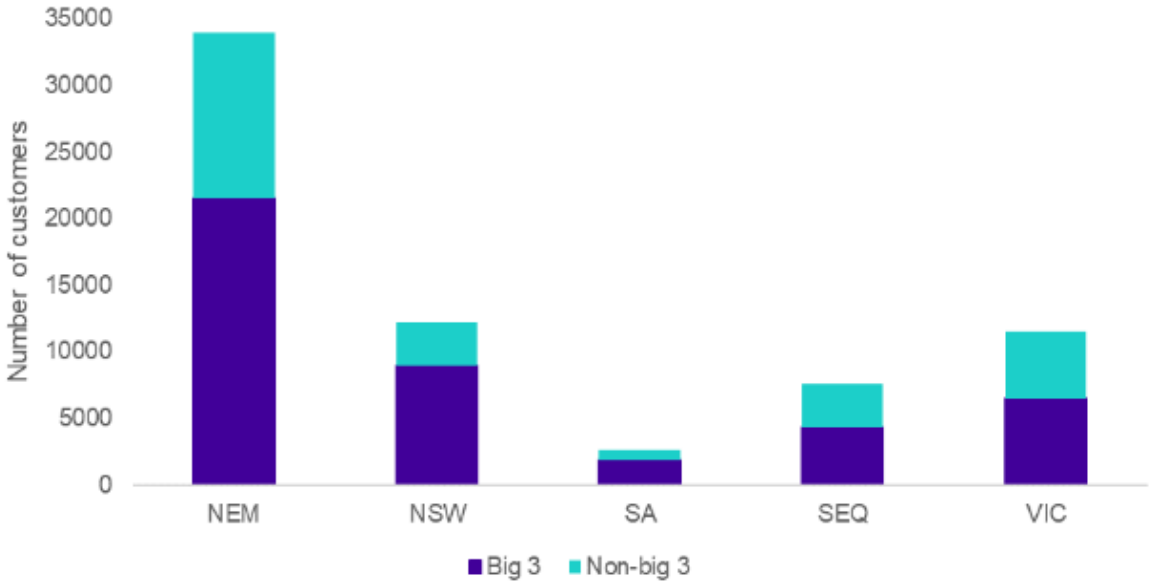
62 Australian Automobile Association, *Electric Vehicle Index* (March 2025), accessed 26 June 2025 - estimate based on vehicle registrations by fuel type and sales statistics (excludes plug-in hybrid electric vehicles). Appendix A sets out our methodology). This method is distinct from that used in the ACCC's Quarterly report on the Australian petroleum market from June 2025 which details sales figures of battery electric vehicle from March 2022 onward nationally.

63 The proportion is likely somewhat higher, as we cannot limit Queensland numbers to just South East Queensland (as our customer numbers for electric vehicle tariffs are for).

64 Australian Energy Regulator (AER), *Retail energy market performance update for Quarter 2, 2024-25*, AER, Schedule 2 - Quarter 2 2024–25 retail performance data - combined national residential customer market share of Origin, AGL and EnergyAustralia is 61.6%.

Figure 3.5: Big 3 retailers hold the majority of electric vehicle tariff customers

Electric vehicle tariff customer number share, by region, January 2025



Source: ACCC analysis of retailers' data.

While a vast majority of survey respondents (73.7%) believe electric vehicle tariffs have low barriers to entry, 38.9% and 29.4% of respondents were moderately likely or less to offer electric vehicle tariffs over the next 2 and 5 years, respectively (see Appendix E).

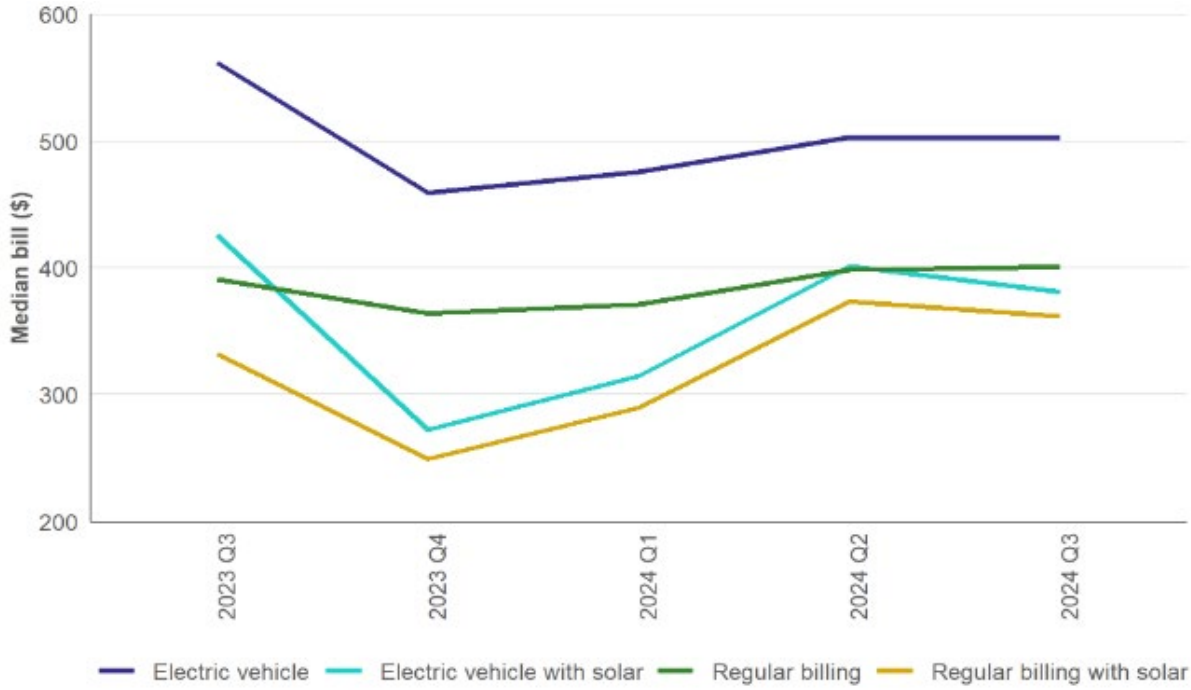
3.2.3. Bills for electric vehicle tariff customers are higher but not for those customers who also have solar

We explored the effect of solar on bills for customers with electric vehicle tariffs and found contrasting billing outcomes for customers without electric vehicle tariffs (both with solar and without). We are unable to identify customers with electric vehicles that are not on electric vehicle tariffs.

Figure 3.6 shows median bills for customers with electric vehicle tariffs and solar are broadly similar to regular customers with solar. However, customers with electric vehicle tariffs without solar had median quarterly bills that ranged from 25% to 69% higher than electric vehicle tariff customers with solar. This indicates the importance of solar for minimising the impact of electric vehicles on household electricity bills, as customers are likely charging their vehicles for free directly from their solar systems. While Figure 3.6 shows the NEM wide billing results, the relationship between results for each customer types is generally consistent for each region.

Figure 3.6: Electric vehicle tariff customers have larger bills but solar more than compensates

Median bills for electric vehicle tariff customers against other customer types, all regions combined, quarter 3 of 2023 to quarter 3 of 2024



Source: ACCC analysis of retailers' data.

It is important to note that electricity bills are just one component of a customer's total energy costs (referred to by the Australian Energy Market Commission as an energy wallet). An energy wallet comprises the total amount a customer spends directly on energy, including electricity bills, petrol for cars and gas for heating.[65] This means that, while a customer's electricity use increases from charging their electric vehicle at home, doing so should reduce their total energy costs by reducing petrol costs.

3.2.4. Higher bills for electric vehicle customers are driven by higher usage

High bill results for electric vehicle tariff customers are largely explained by the substantially higher electricity grid usage, as a result of charging their electric vehicles at home.

Figure 3.7 shows the median usage for residential customers with electric vehicle tariffs was approximately twice that of solar and non-solar customers without electric vehicle tariffs in quarter 3 of 2024. This is also the case at an individual region level. However, individual usage and electricity spending may also be affected by behind the meter consumption and the use of public charging infrastructure.

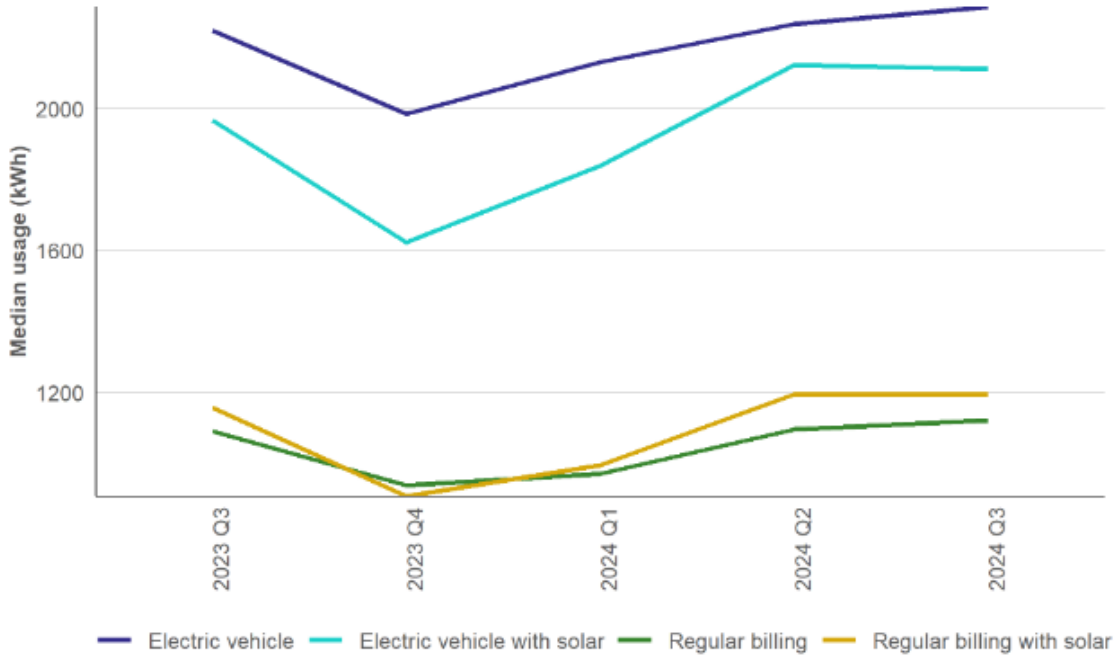
Electric vehicle tariff customers with solar had lower usage than those without solar. This illustrates that customers who can generate solar energy are limiting the amount of additional electricity from the grid required to charge their vehicles.

[65] Australian Energy Market Commission, *AEMC's outlook maps path to lower household energy costs through coordinated transition'*, 2024, accessed 18 June 2025.

In the summer quarters for most regions, when solar production is greatest, customers with electric vehicle tariffs and solar had a pronounced reduction in usage. South East Queensland demonstrates the opposite trend with peak usage occurring in the summer quarters for all customer groups, which is consistent with the differences in climate and the need to dedicate more energy to cooling.

Figure 3.7: Electric vehicle tariff customers use much more electricity

Median usage for electric vehicle tariff customers against other customer types, all regions combined, quarter 3 of 2023 to quarter 3 of 2024



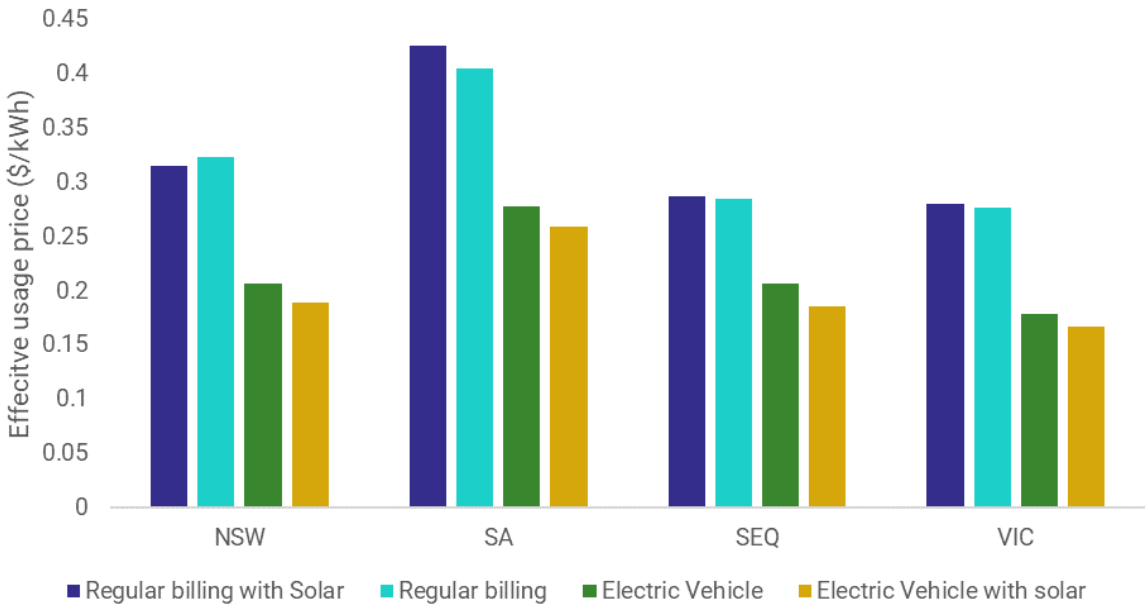
Source: ACCC analysis of retailers' data.

Electric vehicle charging tariffs encourage customers to shift their usage

Despite electric vehicle tariff customers having approximately double the usage of those without such tariffs, the difference in bills was no more than $142 (28% of the median electric vehicle tariff bill). Figure 3.8 reveals that this relatively small difference in median bills and large difference in usage results in lower effective usage prices of electric vehicle tariff customers in all regions. Effective usage charges are calculated as total usage charge ($) divided by usage volume (kWh), excluding any supply charges and feed-in tariffs.

Figure 3.8: Customers on electric vehicle tariffs pay the least overall per unit of electricity

Effective usage price for electric vehicle tariff customers compared to regular billing and solar customers, all regions, quarter 3 of 2024

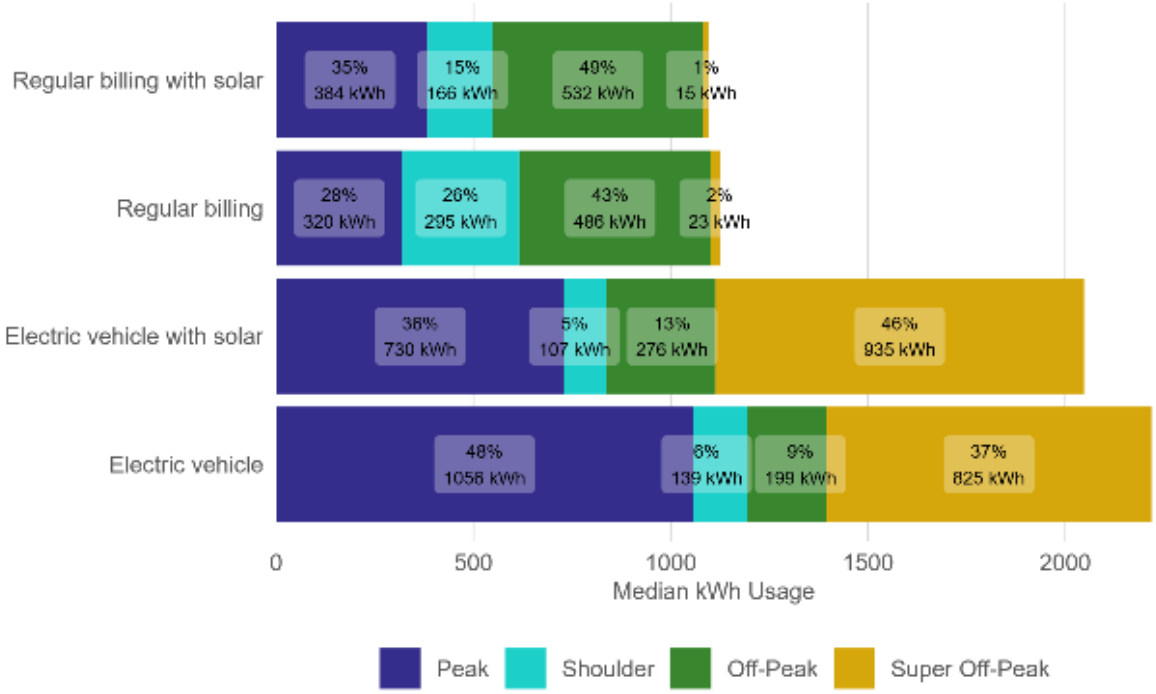


Source: ACCC analysis of retailers' data.

The lower effective usage prices for electric vehicle tariff customers are due to consumers making good use of cheaper usage windows and shifting movable usage to those periods (Figure 3.9).

Figure 3.9: Much of electric vehicle tariffs customers additional usage occurs during super off-peak periods

Proportion of total usage falling in different usage windows, electric vehicle tariff customers, all regions combined, quarter 3 of 2024



Source: ACCC analysis of retailers' data.

Figure 3.9 reveals that that 37% of the overall usage of a residential electric vehicle tariff customer (without solar) in quarter 3 2024 occurred during super off-peak windows when grid usage is free or very cheap. This proportion increased to 46% for electric vehicle tariff customers with solar. This accounts for the majority of the additional electricity customers with electric vehicle tariffs consume compared to customers without such tariffs. Customers with electric vehicle tariffs and solar show lower overall grid usage than those without solar, which suggests that they charging their vehicle from their self-generation.

It should be noted that super off-peak pricing covers all usage during this period, not just electric vehicle charging. This may encourage higher usage for other discretionary appliances (such as air conditioning or a clothes dryer) during this period.

We observed the impact of these usage shifts on bills for electric vehicle tariff customers. Despite 43% of the median usage for electric vehicle tariff customers (both with and without solar) occurring during super off-peak periods, charges for usage during that period only make up around 21% of the median bill across New South Wales, South Australia, Victoria and South East Queensland. High peak usage charges in South Australia, both for customers with electric vehicle tariffs and those without, may be explained by a long peak usage period and higher prices compared to other regions.[66] [67]

[66] For example, South Australian Power Network's Time of Use residential network tariff has a 14 hour peak usage window (SA Power Networks, Annual Pricing Proposal 2024/25, p.25) while the residential Time of Use network tariff for customers in South East Queensland has a 5 hour peak usage window (Energex, Revised Tariff Structure Statement 2020-2025, p 28.

[67] See Section 2.6.2 of the ACCC's *Inquiry into the National Electricity Market, December 2024 report* for a comparison of average annual offer prices by region.

The effectiveness of electric vehicle tariffs in encouraging consumers to shift a large proportion of their usage to super off-peak pricing periods benefits consumers, retailers and the electricity system. Encouraging usage at times when solar generation is plentiful and wholesale prices are low helps to minimise:

- the proportion of a retailer's customer load that requires hedging against periods of high wholesale prices
- the escalation of wholesale prices reflecting increasing peak demand
- the need for additional network infrastructure to be built to meet increasing peak demand.

As all costs are eventually borne by customers, minimising these costs is in the interests of all consumers.

3.3. Virtual power plants are growing and offer a range of benefits

A virtual power plant is a new energy service where individual energy sources of generation from different locations are aggregated and controlled by a central operator. This is with the purpose of using aggregated energy resources to provide services to the broader electricity market (Section 3.3.4). In this report, we consider the most common type of virtual power plant that combines a solar and battery system (a combined system)

Virtual power plant offers differ in structure, eligibility conditions, and the incentives offered (for example, sign up bonuses, regular credits, lower usage charges, higher feed-in tariffs). These differences provide customers with offers ranging in complexity. More simple virtual power plant offerings will likely improve many consumers' understanding of plans and their confidence in the service. We provide some examples of virtual power plant offers in Box 3.4.

Box 3.4: Different virtual power plant offers

Origin's Loop VPP[68]

A customer on an Origin retail energy plan with a compatible combined solar and battery system can join Origin's Loop VPP and choose which offer they wish to join. For example, the 'BYO offer' currently provides a $200 sign-up bonus and a $1/kWh payment on top of feed-in-tariffs for energy discharged during Origin Loop events. The previously available 'Monthly Credit Offer' had an initial term of 5 years with a $20 monthly credit toward the customers electricity bills regardless of the volume of energy discharged.

Origin's Loop VPP requires access to the customer's battery for at least 90% of each month. Origin aims to leave 20% of energy stored in the battery for the customer's use and will not discharge over 200 kWh of electricity from the customer's battery in 12 months.

While customers are not locked into a long-term contract for the Loop VPP, early termination fees may apply for some of Origin's offers (for example, for Origin's Monthly Credit Offer the customer pays back the benefit paid by Origin on a pro-rata basis if they leave before the end of 5 years).

[68] Origin, *Origin Loop VPP Battery Terms and ConditionsOrigin*, accessed 13 May 2025.

EnergyAustralia's Solar Home Bundle (see Case Study in Section 3.3.2)[69]

Customers on this plan signed up to a 7-year term contract where EnergyAustralia installed a combined solar and battery system on the customers premises at no upfront cost to the customer. At the end of the 7 years, ownership of the system will transfer to the customer. If the customer decides to exit the plan early, they pay an exit fee to 'buy out' EnergyAustralia for the remaining value of the system (prorated based on time remaining on the contract). Customers did not receive solar feed-in tariffs or small-scale technology certificates associated with the system. Customers pay a discounted fixed retail tariff for electricity used both from the grid and from the battery over the 7-year contract term. EnergyAustralia's Solar Home Bundle is currently not accepting new customers.

Reposit Power's No Bill™[70]

Reposit Power's No Bill™ plan offers a different yet simplistic plan. It is a 7-year contract where a customer invests in a combined solar and battery system through Reposit Power. Reposit Power arranges the hardware installation and installs its Smart Controller at the customer's premises. During the 7 years, the customer uses electricity as normal, regardless of its source.

Instead on receiving a bill from their retailer for their energy use, the customer's retailer will send the electricity bill to Reposit Power for payment, resulting in the customer not receiving a bill for the contract period. Under this arrangement, customers are required to remain under the monthly energy use "Fair Use Cap" that Reposit Power calculates for each customer (120% of the customers historic energy use).

At the end of 7 years, the customer resumes control of electricity bill and has complete ownership of the combined solar and battery system. They may choose to sign up to a virtual power program again if eligible.

3.3.1. The supply of virtual power plant services is competitive

We have identified 38,200 customers participating in virtual power plants across New South Wales, Queensland, Victoria and South Australia as at January 2025. This figure is relatively small when considering there are roughly 10.1 million residential and small business customers across the same states.[71]

While small, our analysis of billing data shows that virtual power plant customer numbers across the NEM have risen rapidly increasing at an average rate of 21.9% every 6-months over the two and a half years to January 2025. When considering the total number of virtual power plant customers including results from our new energy services survey, the significance of providers beyond our billing notice recipients is clear in January 2025 (Figure 3.10).

South Australia has the highest number of virtual power plant customers. This is possibly driven by the South Australian Government's support of the Tesla led virtual power plant partnership from 2018 that has so far installed over 6,500 combined systems onto public housing.[72]

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69 EnergyAustralia, *Solar Home Bundle*, accessed 13 May 2025.

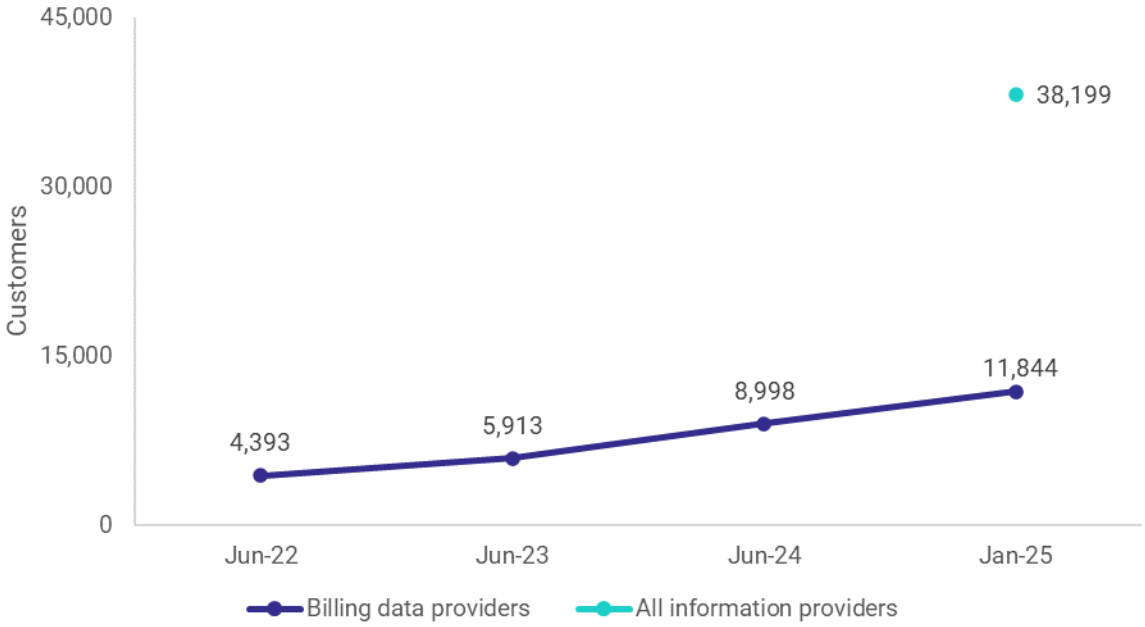
70 Reposit Power, *No Bill, accessed,* accessed 13 May 2025.

71 We identified and collected information from 13 virtual power plant providers (12 retailers and 1 non-retailer). We identified a further 3 to 4 other providers who may have virtual power plant customers, but did not respond to our survey.

72 Government of South Australia, *South Australia's Virtual Power Plant*, accessed 3 June 2025.

Figure 3.10: Virtual power plant plan uptake has almost doubled since June 2022

Number of residential customers participating in a virtual power plant program, all regions combined, June 2022 – January 2025



Source: ACCC analysis of retailers' billing data and survey data.

Note: Survey response data only available for January 2025.

Project Edge, an industry collaboration to demonstrate integration of consumer energy resources, found that those with large households, solar panels, higher incomes and higher levels of education tend to be overrepresented amongst early adopters of new energy technologies.[73]

In response to our survey, providers told us they thought virtual power plants were most likely to gain the interest of more than 50% of customers over the next 5 years. This coincides with strong battery penetration and both state and national government interest in supporting virtual power plants. Survey respondents indicated that consumers are predominantly motivated by fiscal incentives, although non-financial reasons such as their interest in new technology like virtual power plants and trying to have an impact on the environment were also considered common drivers of consumers (Appendix E).

There is a significant gap between customers with batteries and those participating in virtual power plants

We observe a general upwards trend in the number of grid-connected battery installations registered with the Australian Energy Market Operator (AEMO) each quarter across New South Wales, South Australia, Victoria and South East Queensland. We observed approximately 92,000 total installations to the end of 2024 (Figure 3.11).[74]

[73] Project Edge, *General Community Perceptions of Distributed Energy Resources*, October 2022, p 14.

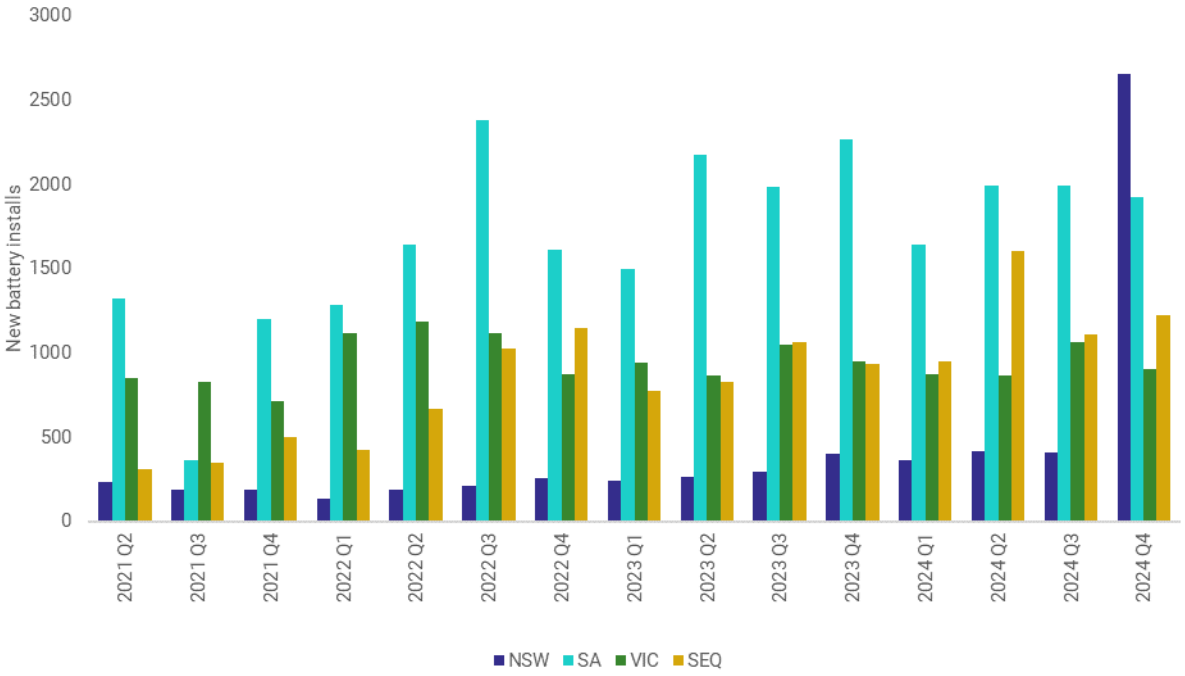
[74] AEMO's distributed energy resource register is a voluntary database of information about devices installed in the NEM and connected to the grid at residential or business locations. It represents a large proportion of batteries installed across the NEM, however AEMO advises that due to reporting processes, not all battery installations are accounted for. Off-grid battery installations would also not be included in the database.

South Australia contains a large proportion of all batteries installed in the NEM (47%) and had a noticeable increase in battery installations between quarters 2 and 3 of 2022. This increase in mid-2022 is likely a result of the state government announcing in June 2022 that its Home Battery Scheme would close once all subsidies had been exhausted or by September 2022, whichever came first.[75]

New South Wales experienced a 545% increase in battery installations between quarters 3 and 4 of 2024. This sharp increase could also be attributed to its state government's announcement to provide a rebate to eligible customers installing a home battery from 1 November 2024 (see Box 3.5).

Figure 3.11: NEM customers continue to install batteries

Number of new battery storage installations in each quarter, by region, from quarter 2 of 2021 to quarter 4 of 2024



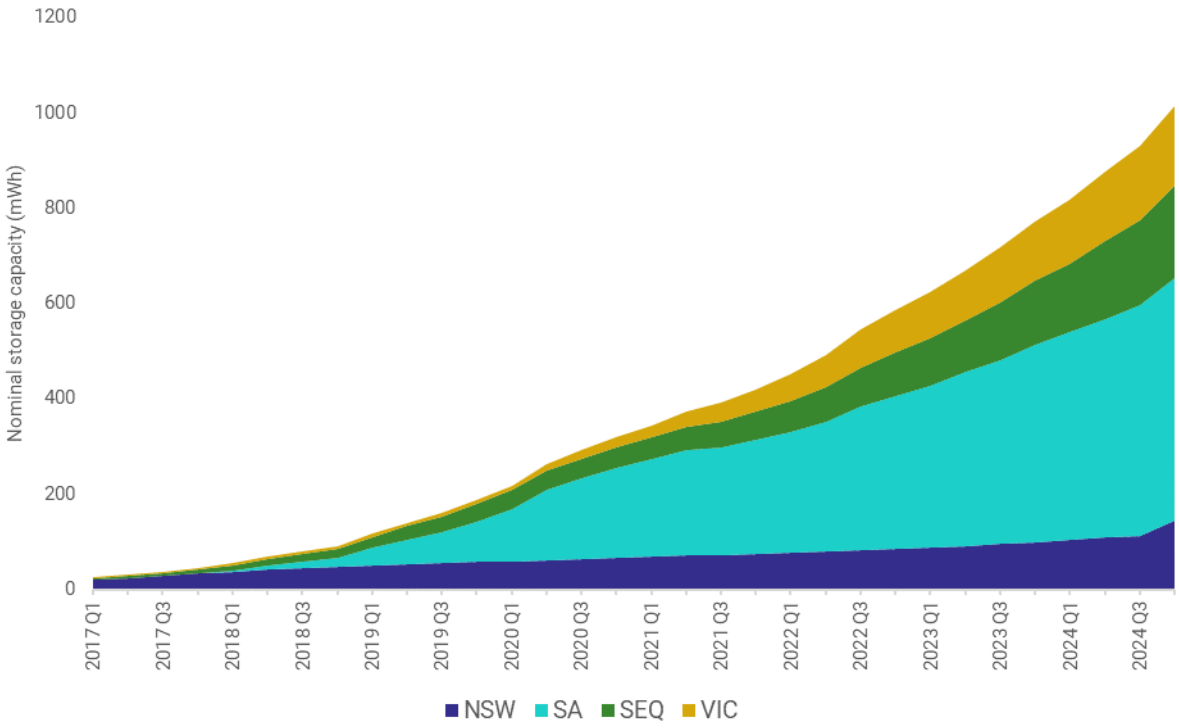
Source: ACCC analysis of AEMO distributed energy resources data.

The most common battery system size in the distributed energy resources register is 13.5 kWh, indicating consumers are leaning toward larger systems, contributing to the growth in storage capacity of installed batteries. Storage capacity in New South Wales, Victoria, South Australia and South East Queensland has grown substantially over time. It has risen from around 26MWh in quarter 1 of 2017 to over 1014 MWh in quarter 4 of 2024 (Figure 3.12). We note that batteries installed off-grid will not be reflected in our data, and will not be able to participate in a virtual power plant.

[75] Government of South Australia, *Budget Paper 5: Budget Measures Statement* 2022, p 39.

Figure 3.12: The growth of battery installations increases our collective storage capacity

Cumulative nominal storage capacity (MWh) for home battery installations

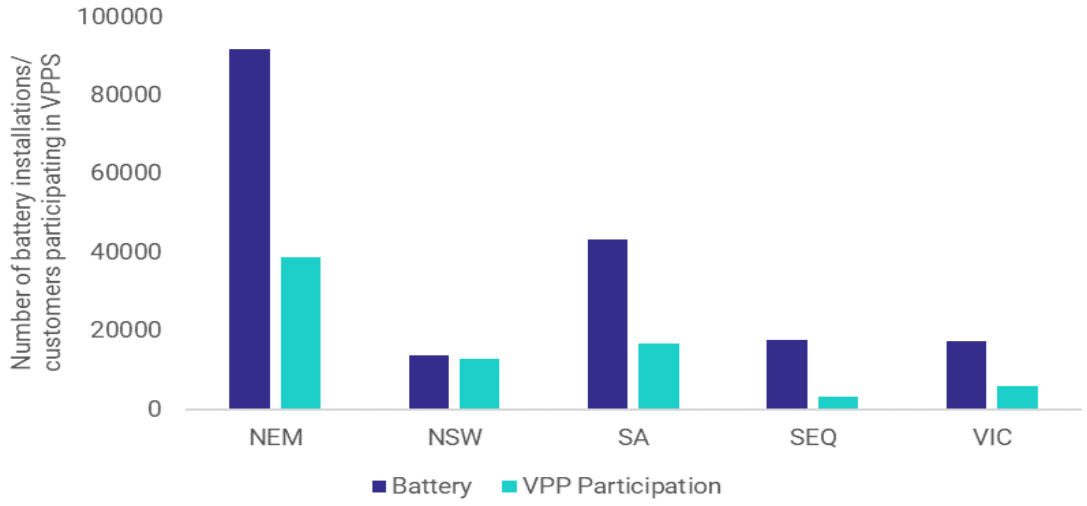


Source: ACCC analysis of AEMO distributed energy resources register data.

The 38,200 customers we have identified as participating in virtual power plants account for 41.5% batteries installed across these regions, noting this proportion would decrease if our data on installed batteries is not exhaustive (Figure 3.13).

Figure 3.13: Rates of virtual power plant uptake vary by state, but nationally, participation lags total batteries installed

Comparison of battery installations and virtual power plant participation rates by region, as at 2 January 2025



Source: ACCC analysis of retailers' and AEMO distributed energy resources data.

Survey respondents noted they considered the complexity of service, reduced consumer control and a lack of familiarity with the service as reasons holding consumers back from participating in virtual power plants (see Appendix E).

The close correlation between battery installations and virtual power plant participation in New South Wales may be due to the New South Wales Government's battery rebate including an additional financial subsidy for customers who signed up to a virtual power plant (Box 3.5).

Box 3.5: New South Wales Government battery and virtual power plant program subsidies [76]

Upfront cost subsidy

Until 30 June 2025, customers in New South Wales were able to access financial assistance for the upfront installation costs of a battery. The subsidy was provided as a discount through an accredited installer with the size of the discount calculated on the capacity of the battery.

For example, the New South Wales Government reported that a battery with capacity of 13.5 kWh would have received a discount of more than $2,000.[77]

Virtual power plant participation incentive

Customers with an eligible battery (that is, a minimum of 6 years remaining on the warranty) can receive an incentive if they sign up to a virtual power plant. This incentive was nearly doubled from 1 July 2025.

Incentives range between:

- $400 to $550 for a 10 kWh battery
- $1000 to $1,500 for a 27 kWh battery.[78]

Incentives are provided to the customer through the virtual power plant provider. The actual incentive amount the customer receives is determined through a contract between the customer and the virtual power plant provider. The provider can determine how it wishes to pass on the incentive to customers (such as an upfront payment or instalments, a discount, or a credit on the bill where the operator is also the customers retailer). The incentive can only be claimed once per National Metering Identifier.[79]

Competition for virtual power plant services will drive greater take up of this service

While the number of virtual power plant customers is small, we observe steady growth and signs of healthy competition.[80] Our analysis has found there is product differentiation and innovation for virtual power plants, with providers offering new services and pricing models to meet customers' needs (see Box 3.4).

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76 Government of New South Wales, *Install a battery*, accessed 25 June 2025.

77 Government of New South Wales, *NSW Commonwealth double incentives for batteries*, accessed 9 July 2025.

78 Government of New South Wales, *Connect your battery to a Virtual Power Plant (VPP)*, accessed 9 July 2025.

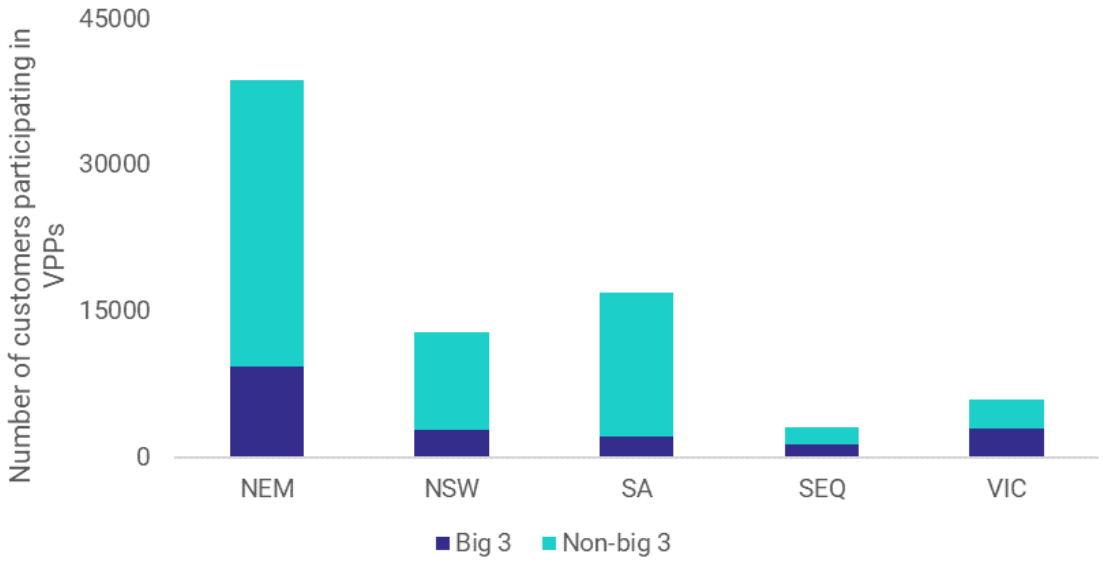
79 Government of New South Wales, *NSW Commonwealth double incentives for batteries*, accessed 9 July 2025.

80 The retail electricity market is where retailers purchase electricity in wholesale markets and sell it to end-users like households and small businesses through retail contracts.

We note that smaller retailers and non-traditional energy providers supply more than 75% of virtual power plant customers, with the big 3 retailers (AGL, EnergyAustralia and Origin) accounting for less than 25% of virtual power plant customers identified (Figure 3.14). The presence of non-big 3 retailers and other energy providers is positive for customers and competition, particularly when the big 3 retailers serve approximately 62% of the retail electricity market.[81] The number and variety of providers supplying virtual power plant services drives competition between retailers which is predominantly observed through product differentiation (Box 3.1).

Figure 3.14: Smaller retailers and non-retailer providers supply the majority of virtual power plant customers

Number of virtual power plant customers by region, January 2025



Source: ACCC analysis of retailers' data.

Interestingly, in response to our survey, over 68% of providers identified moderate to very strong barriers to offering virtual power plants including significant software investment and regulatory requirements (see Appendix E).

3.3.2. Virtual power plant participants experience lower electricity bills

We compared billing outcomes for virtual power plant customers with customers who had a battery installed but were not a virtual power plant participant. [82] Our analysis shows that virtual power plant customers have lower bills as a result of lower grid use and higher solar feed-in tariffs, but virtual power plant credits also had a significant overall impact (Figure 3.15).

We were unable to collect usage data for self-consumption (which occurs 'behind-the-meter') for solar and new energy service customers, and so all usage results for these

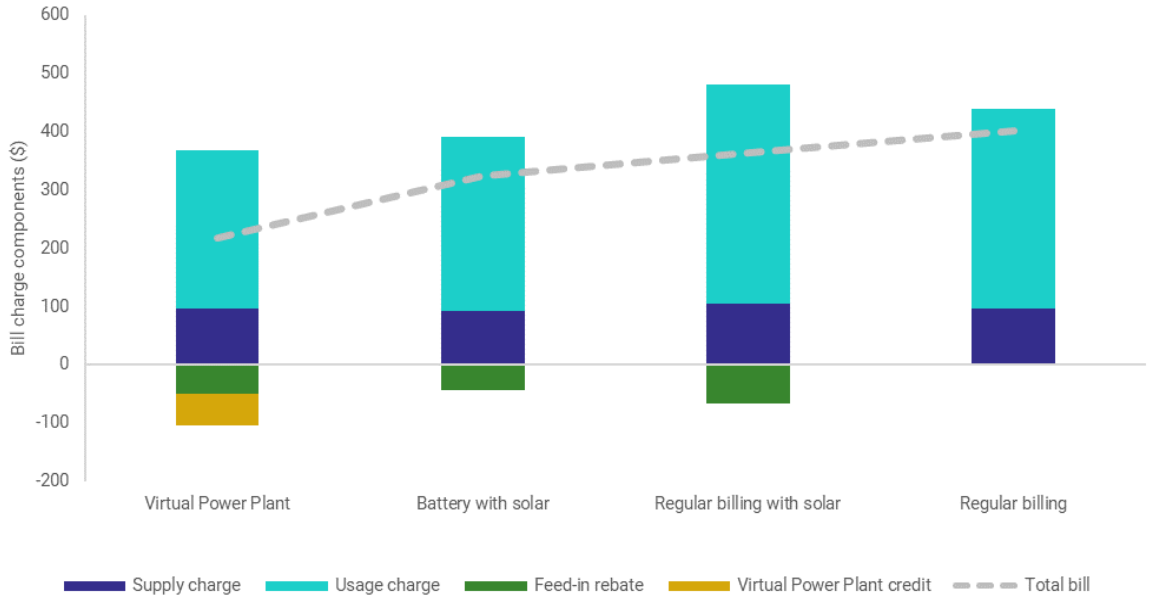
[81] Australian Energy Regulator (AER), *Retail energy market performance update for Quarter 2, 2024-25*, AER, Schedule 2 - Quarter 2 2024–25 retail performance data - combined national residential customer market share of Origin, AGL and EA is 61.6%.

[82] We identified customers with batteries but not participating in a virtual power plant using the Australian Energy Market Operator's distributed energy resources register (see Appendix A for more detail on methodology).

customers represents their usage from the grid. The benefits of self-consumption are considered in Section 3.3.4.

Figure 3.15: Virtual power plant customers have cheaper bills

Comparison of bill components between virtual power plant customers and other customer types (excluding EnergyAustralia virtual power plant customers), quarter 3 of 2024

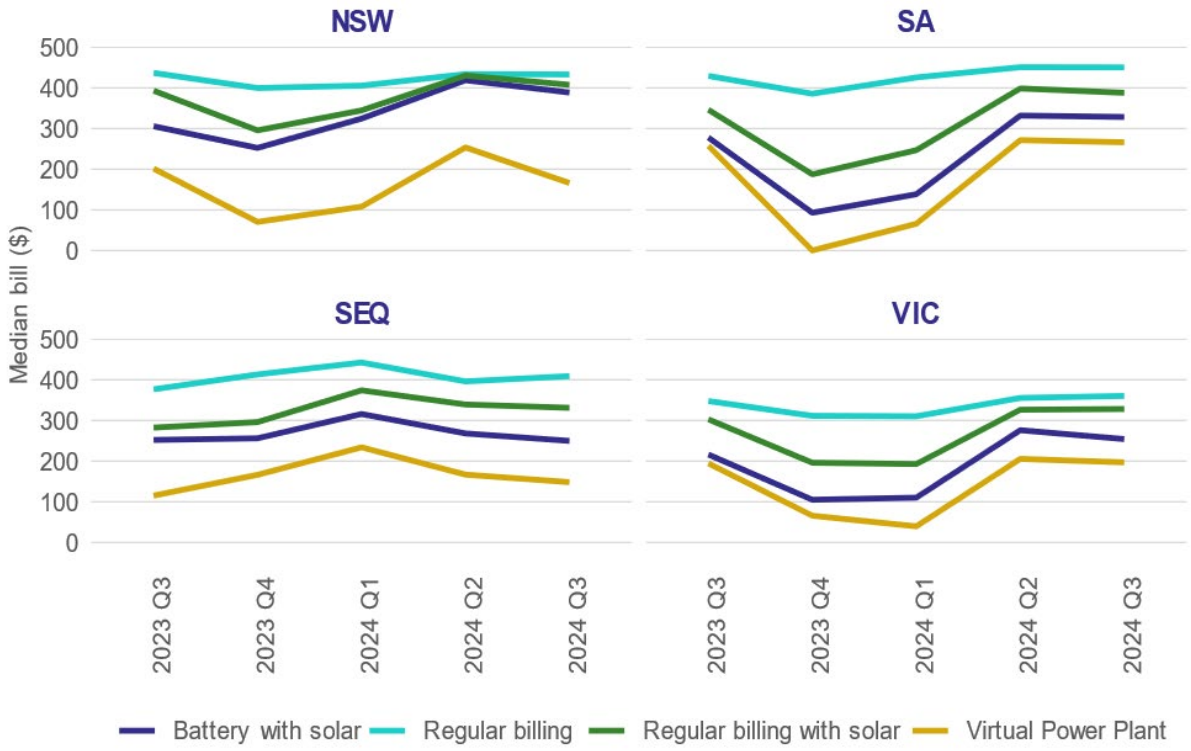


Source: ACCC analysis of retailers' and AEMO distributed energy resources data.

Virtual power plant customer bills ranged from $56 lower than battery with solar customers (in Victoria) to $197 lower (in New South Wales) in quarter 3 of 2024 (Figure 3.16).The New South Wales battery with solar group had a larger proportion of high energy users compared to virtual power plant customers, leading to larger median usage charges and a large difference in bills for these customers in this state.

Figure 3.16: Virtual power plant customers pay lower bills across NEM

Median bills paid by virtual power plant and battery customers, by region, quarter 3 of 2023 to quarter 3 of 2024

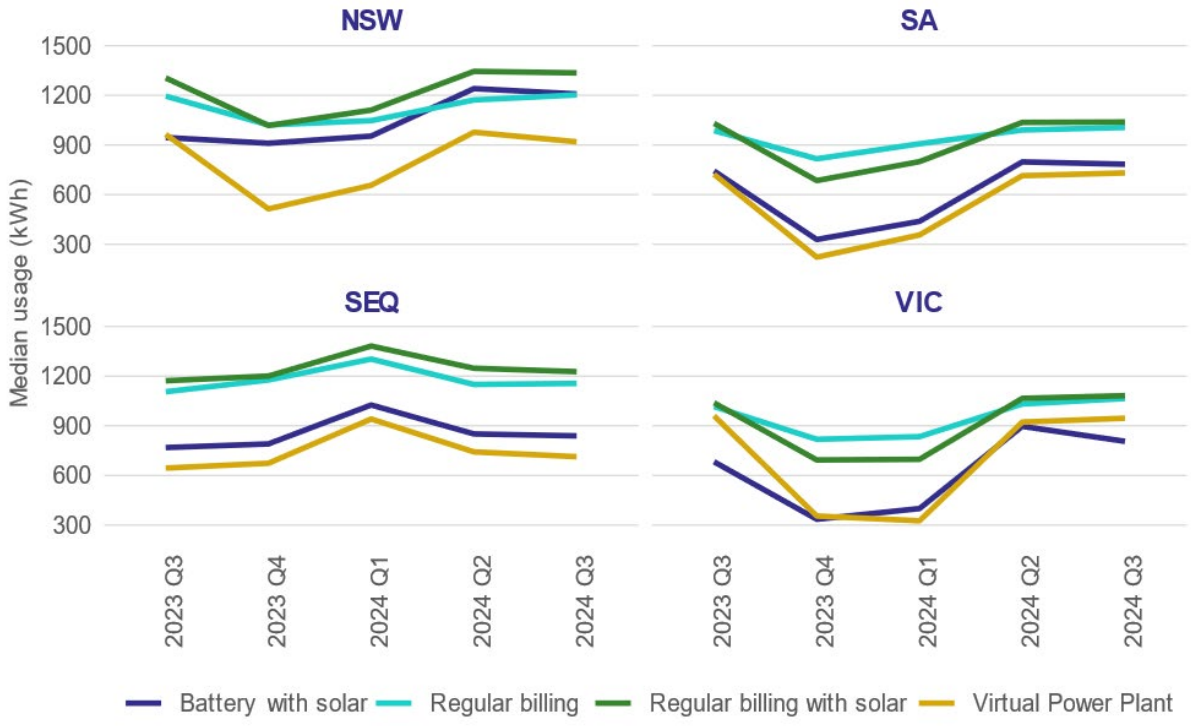


Source: ACCC analysis of retailers' and AEMO distributed energy resources data.

We see considerable seasonal variation in billing and usage results for virtual power plant customers, with the summer months (quarter 4 2023 and quarter 1 2024) showing much lower bills and usage across most states. This likely reflects greater solar generation from these customers during these months (see Figure 3.17) and the ability to self-consume and receive solar feed-in credits. South East Queensland is an exception to this observation, likely reflecting their generally milder winters and warmer summers, affecting usage patterns.

Figure 3.17: Virtual power plant customers generally use less energy from the grid than other customers

Median usage by virtual power plant and battery customers, by region, quarter 3 of 2023 to quarter 3 of 2024

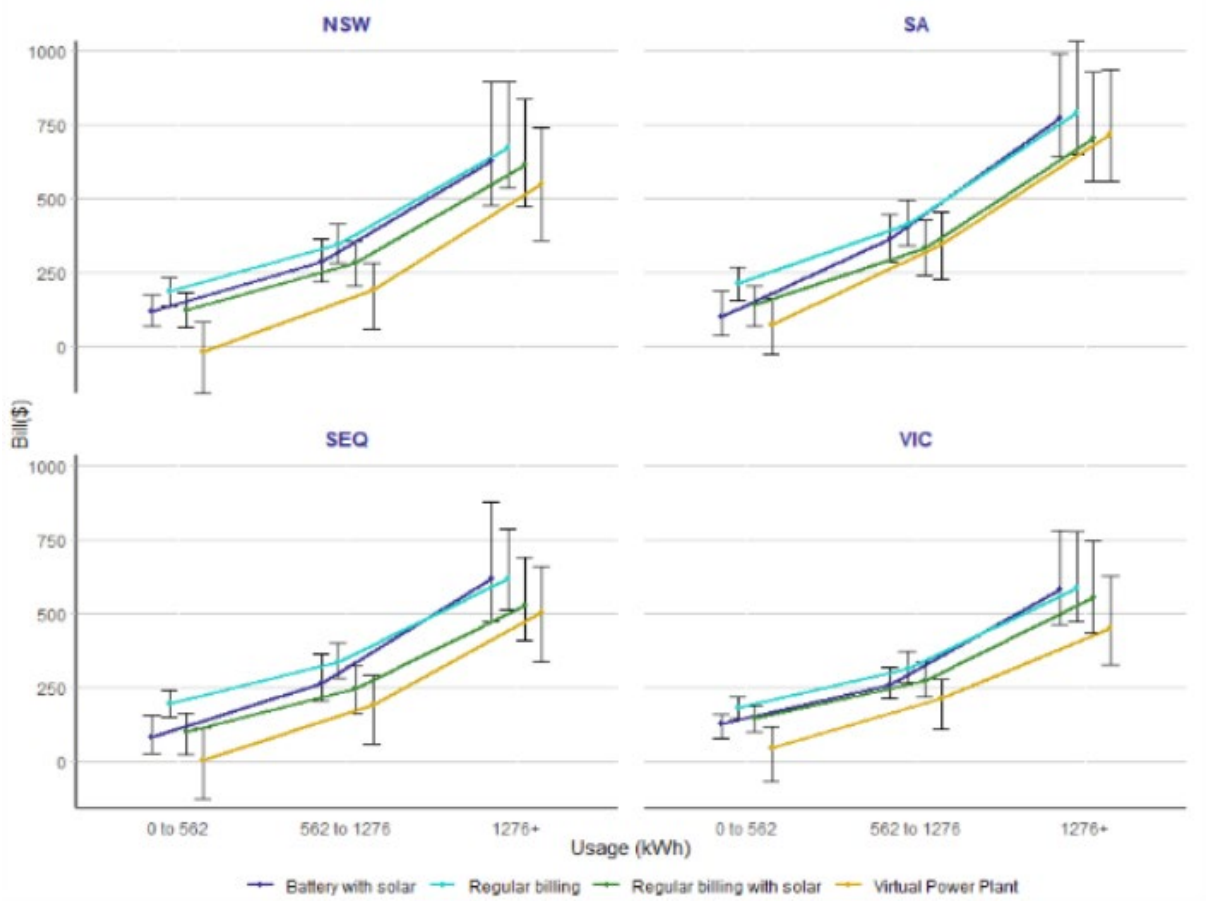


Source: ACCC analysis of retailers' and AEMO distributed energy resources data.

These positive outcomes continue for virtual power plant customers when considering bills across different usage bands. Figure 3.18 shows that virtual power plant customers are paying lower bills across all states and levels of usage compared to other customer types. Battery customers who had solar but were not participating in a virtual power plant program had mixed results when looking at state based outcomes. They typically paid higher bills than customers with solar but less than regular billing customers.

Figure 3.18: Virtual power plant customers are paying lower bills than customers with solar and/or batteries

Median bills outcomes across usage bands for different customer types, quarter 3 of 2024 (Bars show the 75th and 25th percentile bill for each group and band)



Source: ACCC analysis of retailers' and AEMO distributed energy resources data.

Case Study: EnergyAustralia's Solar Home Bundle Plan offers less control of assets in exchange for no upfront costs

From a customer's perspective, EnergyAustralia's Solar Home Bundle is quite simple. They have a combined solar and battery system installed on their premise with no upfront investment costs and receive a discounted fixed retail tariff for all energy consumed – whether it's from the system or the grid. For this reason, we excluded customers on the Solar Home Bundle Plan from our headline billing dataset, as other virtual power plant products do not charge for electricity usage discharged from their battery.

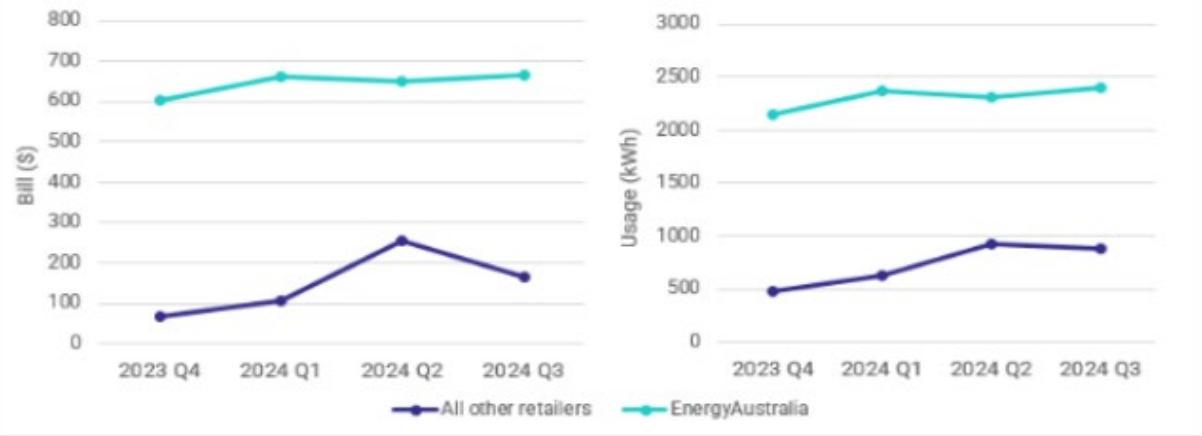
From the retailers' perspective, they retain complete control and ownership of those assets. Instead of needing to purchase electricity from the wholesale market or make large investments in generation themselves, they can use the battery storage to access other different markets where they see value. This may include ancillary services and other service markets. As noted in Box 3.4, this plan is currently not accepting new customers.

As a result of this difference in contract terms and battery usage, we also see that median usage for which customers are charged is substantially higher for customers on this plan than other virtual power plant customers in New South Wales. This drives substantially

higher bills for these customers (Figure 3.19), however they do not incur upfront or financing costs for their hardware and they will own the hardware of the end of the contract period. As a result of the discounted usage charge, the effective price for these customers is broadly consistent with other customers.

Figure 3.19: Customers trade-off higher bills in return for paid off hardware in 7 years on EnergyAustralia Solar Home Bundle

Usage and bills for EnergyAustralia's Solar Home Bundle customers compared against all other retailer virtual power plant customers in New South Wales, quarter 4 of 2023 to quarter 3 of 2024

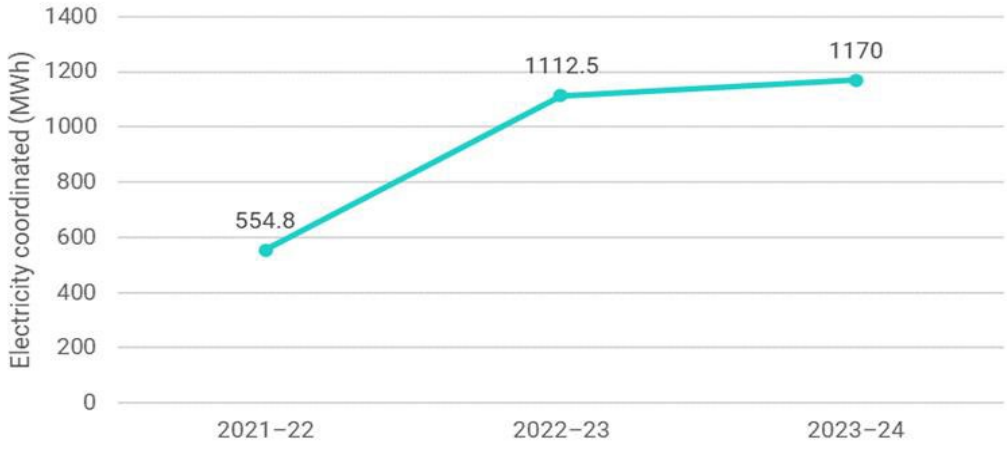


Source: ACCC analysis of retailers' data.

We also observe a substantial volume of total electricity coordinated from EnergyAustralia's virtual power plant in New South Wales (Figure 3.20). Batteries associated with the Solar Home Bundle are dispatched on average daily (as a result of full retailer control over the asset). The amounts coordinated across all regions by other virtual power plant operators, suggest they are more limited by their offers, which have relatively binding terms around coordination of assets (Section 3.3.4).

Figure 3.20: EnergyAustralia coordinates significant volumes of electricity under its virtual power plant

Coordination volumes (MWh) over time for EnergyAustralia's virtual power plant customers in New South Wales, 2022 – 2024



Source: ACCC analysis of retailers' data.

Other virtual power plant arrangements that are coupled with a no-upfront cost financing arrangement for battery systems also exist outside of our billing dataset. For example, Diamond Energy's NRN virtual power plant plan. Consumers can join virtual power plants with existing hardware and receive bill credits, or they can purchase the required equipment from their retailer at a discount providing they sign up to the virtual power plant for 5 to 7 years.

As noted previously, product differentiation among virtual power plant offers is likely a positive reflection of competition for the supply of this service and a positive outcome for consumer choice. Offers such as the Solar Home Bundle may provide consumers without the financial resources to purchase consumer energy resources access to some of the benefits of a battery system.

However, customers signing up to such offers will need to be aware of the conditions that they are signing up for to ensure their expectations around battery use aligns with the retailers' and consider their capacity to comply over the relevant period. Customers may be disappointed if they expected to have a battery installed from which they could draw down on for free or use as a backup power supply during black outs.

3.3.3. Virtual power plants and batteries enable customers to reduce and shift their electricity usage from the grid

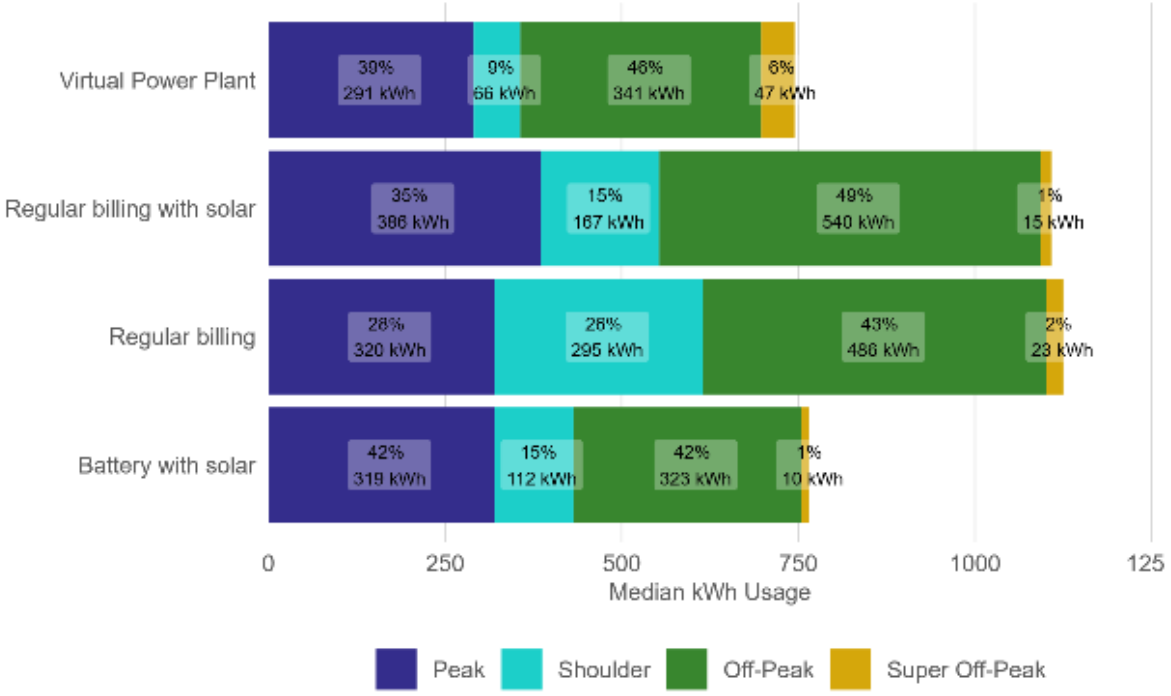
Customers with both a solar and battery system are typically able to generate and store their own energy, reducing their reliance on the grid. This occurs regardless of whether the customer participates in a virtual power plant.

As set out in Appendix A, we are unable to collect usage data for self-consumption, which occurs 'behind-the-meter'. When looking at usage from the grid, Figure 3.21 shows virtual power plant customers had the lowest median usage among customer groups, and both battery and virtual power plant customers had significantly lower median usage than customers with only solar. Virtual power plant customers had even lower usage in both shoulder and peak time use periods compared to customers with solar and batteries (who were also substantially lower than customers with solar alone).

Figure 3.21 may indicate that virtual power plant operators help customers to minimise grid usage by optimising systems for self-consumption including at shoulder and peak times when solar energy produced during off-peak periods is released from the battery for customer use. This reduction in usage, both overall and during peak and shoulder periods, is the most significant driver of reduced bills for virtual power plant customers. We see that virtual power plant customers have the lowest median peak usage charges of all customer groups.

Figure 3.21: Batteries reduce grid usage but virtual power plants further optimise solar generation

Comparative proportion of total usage falling in different usage windows, for different customer types, all regions combined, quarter 3 of 2024



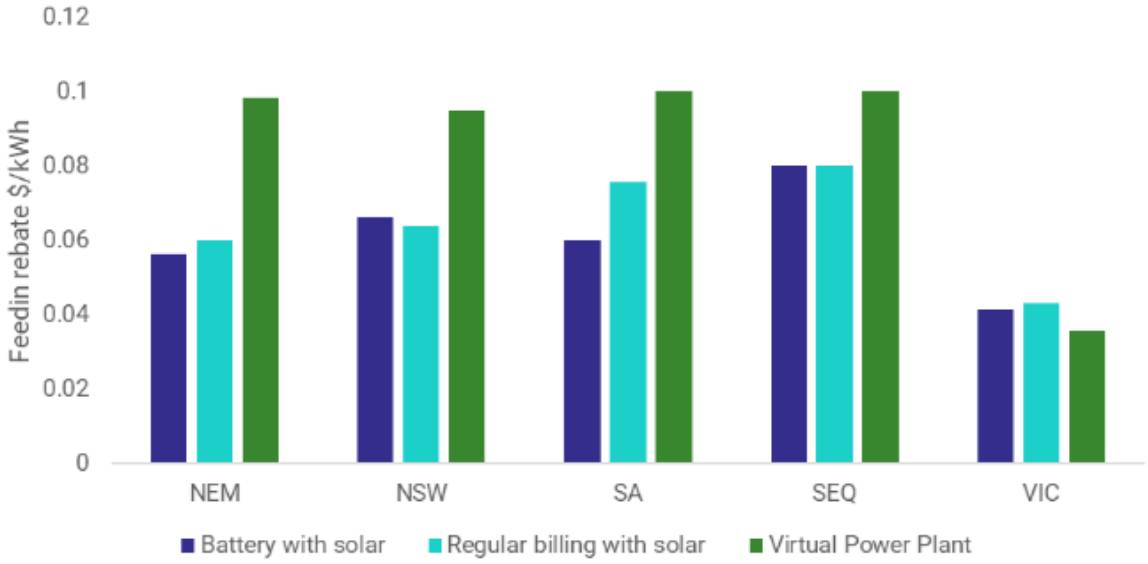
Source: ACCC analysis of retailers' and AER distributed energy resources data.

Feed in tariffs can also influence energy usage. A high feed in tariff may encourage a customer to export more of their generated electricity rather than use it for self-consumption. This would result in the customer consuming more electricity from the grid. Figure 3.22 compares feed in tariffs for residential customers in virtual power plants, with solar systems, and with solar and battery systems in quarter 3 of 2024. In all regions, virtual power plant customers had the largest feed in tariff although in Victoria the tariffs were lower than in other regions and almost equal across the three customer groups at about 5c/kWh.

The lower feed-in tariff for customers that have combined solar and battery systems who do not participate in virtual power plants should encourage more self-consumption, reducing the amount of grid usage compared to customers in virtual power plants but our data shows the opposite.

Figure 3.22: Virtual power plant customers get better prices for their feed-in supply

Feed-in value ($/kWh) for customer types by region, for customers paid for export during, all regions, quarter 3 of 2024



Source: ACCC analysis of retailers' and AEMO distributed energy resources data.

The lower peak grid usage of virtual power plant customers may be due to them having larger combined solar and battery systems than other battery customers (which accommodate higher levels of self-consumption). As well as virtual power plant operators assisting customers to reduce their grid usage through remote optimisation of their consumer energy resources.

The way an operator coordinates consumer energy resources may impact the customer's grid consumption. We observe most virtual power plant operators dispatch relatively low volumes of electricity from their plants. However, if the amount operators coordinate increases, this could reduce the ability of customers to draw down their batteries for their own usage, making them rely more on grid consumption (see Section 3.3.4). We observe the impact of differing levels of coordination on customer outcomes in our EnergyAustralia case study (Section 3.3.2). As discussed in Chapter 4, consumer protections may be required to guarantee customers have sufficient access to their batteries to meet their daily household usage needs so they are no worse off as a result of participating in a virtual power plant.

3.3.4. Consumer investments in energy resources and benefits of self-consumption and coordination

As noted in Section 1.3.1, there are many reasons customers take up combinations of solar and battery systems, including a preference for renewable generation together with greater energy autonomy and reduced bills.

The substantial financial investment to acquire these assets remains one of the primary reasons customers are still either hesitant or unable to take them up (Section 1.3.1). This is why governments, in pursuit of national energy objectives, have sought to reduce the upfront cost of consumer energy resources through subsidies and other schemes.

From a financial perspective, customers will be incentivised to take up consumer energy resources if they are able to receive benefits of at least equal value to the upfront

investment cost within the warranty period of their respective solar and battery systems.[83] This return on investment is central to the customer value proposition.

Customers receive benefits from their ability to use energy they have generated and stored to offset their electricity costs (see Section 3.3.3). They can also receive benefits for participation in virtual power plants, which are paid in exchange for providing operators the ability to use and control their solar and battery systems. Operators provide these benefits to customers from income they generate in markets, such as wholesale and ancillary service markets (Section 3.3.4).

The overall benefit of participating in a virtual power plant may vary with an individual's preferences, such as the value they place on energy independence, and may change over time. This is a complex calculation for customers, who will need to weigh the rewards received for retailers exercising some control over their batteries, against the potential for reduced benefits from their assets, such as solar rebates and savings from self-consumption (the ability to consume electricity generated from their combined solar and battery system).

Virtual power plants can offer system-wide benefits

As part of a virtual power plant, consumers give up an element of control over their solar and battery systems to allow operators to remotely aggregate their assets. This is called coordination. Dispatch, on the other hand, refers to what an individual virtual power plant customer exports back into the grid during a broader coordination event.

Through coordination, virtual power plant operators are able to generate income from providing services to other markets. Some examples of the markets in which operators can generate income include:

- Retail markets: where retailers operate virtual power plants, they can reduce their exposure to spot market prices. They do this by coordinating consumer energy resources to feed into the grid during peak periods, mitigating their need for peak hedging contracts and hedging contracts more generally. This may temporarily raise their margins, although higher margins may not persist due to competitive and regulatory constraints.[84]
- Wholesale markets: virtual power plant operators provide wholesale demand response and reliability services. Operators provide additional electricity when prices are high or supply is constrained.[85] They can also arbitrage wholesale market prices to their advantage.
- Ancillary service markets: virtual power plant operators provide contingency frequency control ancillary services. They coordinate consumer energy resources, such that a generator's output is quickly increased or decreased, to correct frequency fluctuations caused by mismatches of supply and demand.[86]

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83 Customers would prefer to payback their investment within the warranty period of their solar and battery systems as this ensures that the customer is covered should anything unexpected occur to the battery within the rest of its expected life. We note that batteries have an industry standard warranty length of 10 years, while solar panels have an industry standard warranty length of 20-25 years.

84 High retail margins may provide incentives for new retailers to enter the market. These new entrants may compete with existing retailers on price for customers, thereby putting downwards pressure on margins. Additionally, the retail pricing prohibition under 153E of the CCA requires retailers to make reasonable adjustments to their prices to reflect sustained and substantial reductions in their underlying cost of procuring electricity. That is, unless cost reductions relate to an individual retailer's increased efficiency. *See: Guidelines on Part XICA—Prohibited conduct in the energy market* (May 2020).

85 *Reliability and Emergency Reserve Trader Guidelines: Final Guidelines*, Reliability Panel AEMC, 21 August 2020.

86 *Guide to Ancillary Services in the National Electricity Market*, AEMO, 9 October 2023.

There is currently scope for virtual power plant coordination to increase

The volume of electricity virtual power plant operators are coordinating from customers' solar and battery systems has risen along with the number of customers participating in virtual power plants. In our data, the total volume of electricity coordinated for 2023–24 was 138 MW, an increase of over 75% for the two years to 2023–24, suggesting operators are increasingly providing services to the system.

However, the average amount of electricity dispatched into the grid per customer per year has remained reasonably steady at around 16 kWh over the three years to 2023—24. [87] This represents a small amount of electricity dispatched per customer, given the median usage for a residential customer without solar power over 2023–24 was nearly 4,200 kWh according to our data.

This implies that, for average customers in our billing dataset, virtual power plant coordination is likely not having a material impact on their ability to use their solar and battery systems for self-consumption purposes.

While the average amount of electricity dispatched per customer was small, virtual power plant operators are authorised to dispatch much more electricity under the terms of the contracts we analysed (see Chapter 4). In general, virtual power plant operators have access to a large proportion of customers' battery storage, with many of the contracts we analysed reserving a battery storage of only 20% for household consumption (see Chapter 4).[88]

If the level of coordination increases significantly in the future, the impact on a customer's ability to use their solar and battery system for self-consumption may be much greater. We analyse the contract terms for a range of virtual power plant offers, and the risks and challenges they may pose, in greater detail in Chapter 4.

Pass through of benefits is central to incentivising customer participation virtual power plants

The Australian Energy Market Commission found that, on average, virtual power plant operators pass through around 50% of the value they generate from consumer energy resources to customers.[89] As we found in Box 3.4, operators pass through value in a variety of ways, which can impact customer incentives to participate in virtual power plants and provide benefits to the greater system.

- Fixed benefits (such as regular bill credits): customers do not bear the risk of low returns in other markets but there may be times when they might benefit more from self-consumption than participation in a virtual power plant. At these times, operators may seek to provide customers with more benefits to align their conflicting incentives in the use of home solar and battery systems.
- Variable benefits (such as high feed-in tariff rates): customers share the risks and rewards from other markets with operators. However, as customers are exposed to price

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87 Actual dispatch amounts per customer may vary based on factors including individual virtual power plant agreements and individual circumstances relevant to the customer. For this reason, we have calculated these figures without the total amount of electricity coordinated and dispatched for EnergyAustralia customers, who coordinate their customers' assets differently to other virtual power plant operators. See our case study at section 3.3.2.

88 Based on research by Energeia, max operational limits vary between 200 and 675 kWh annually where defined; Energeia, *Benefit Analysis of Load-Flexibility from Consumer Energy Resources: Final Report*, table 9

89 Energeia, Benefit Analysis of Load-Flexibility from Consumer Energy Resources: Final Report (prepared for the Australian Energy Market Commission), 26 March 2025, p 41.

fluctuations and risk, these benefits are uncertain which may not appeal to risk averse customers.

Our analysis of virtual power plant agreements suggests most operators provide customers with fixed benefits or some combination of fixed and variable benefits. Although, in each case, customers need to be adequately compensated for the operator's use of their solar and battery systems. This is particularly for virtual power plant agreements that confer high degrees of control to operators, and so expose customers to greater risks of higher bills from reductions in self-consumption, and possibly reduced energy independence.

Customers face large upfront costs to obtain solar and battery systems

To participate in a virtual power plant, customers need the right consumer energy resources (or 'hardware'). Our analysis of customer contracts found that most virtual power plant agreements require a customer to have a solar panel system, battery, smart meter and an internet connection. Some agreements also require customers to have particular brands and models.[90]

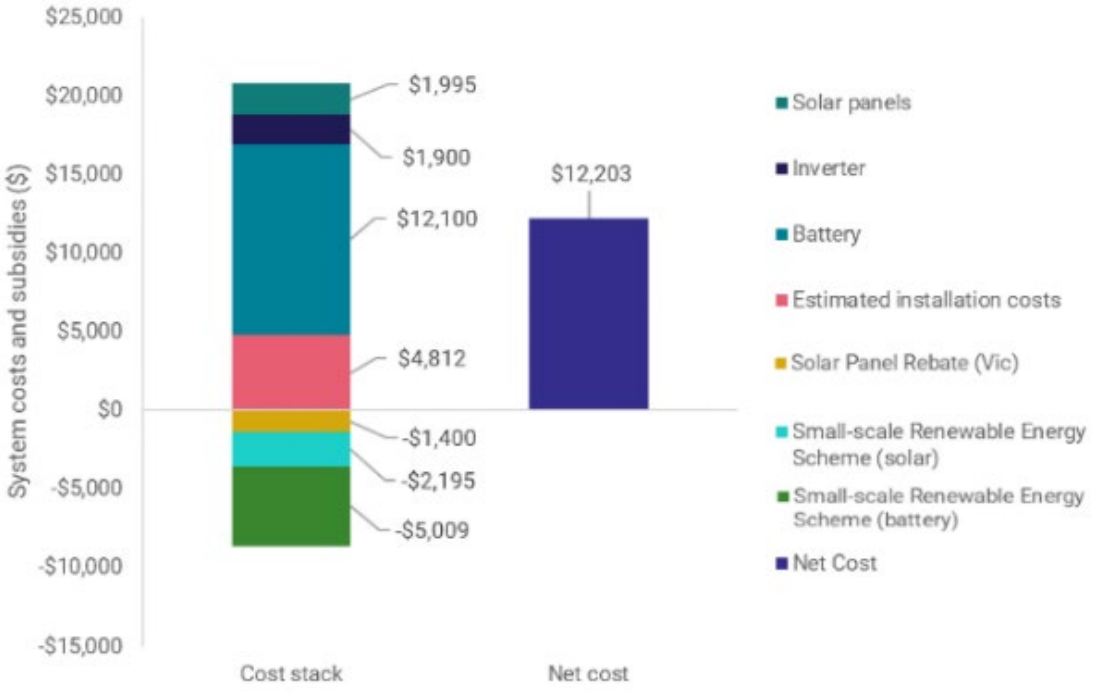
According to the AEMO's Distributed Energy Resource Register, the most common battery system customers are installing has a size of 13.5 kWh and the most common solar system size is 6.6 kW. Figure 3.23 shows this system could cost a customer in Victoria around $20,800 in 2025.[91] This cost estimate is before subsidies and includes installation costs that can vary based on location, seasonality, and individual requirements. Government subsidies may significantly reduce the amount customers actually pay for their systems.

[90] For example AGL's Virtual Power Plant agreement is available only to customers with eligible batteries and inverters from select manufacturers, such as Tesla, LG, Sungrow and Solaredge.

[91] According to AEMO's Distributed energy resource register, the most common battery system size is 13.5kWh while the most common solar system size is 6.6 kW.

Figure 3.23: Subsidies significantly improve the affordability of solar and battery systems

Cost of most common system components for participating in a virtual power plant, 13.5 kWh battery and 6.6kW solar system, before and after government subsidies and discounts, 2025



Source: ACCC analysis of AEMO Distributed Energy Resource Register, CER Quarterly Carbon Market Reports and publicly available pricing information.

Figure 3.23 shows that, after taking into account government subsidies, the same customer in Victoria may incur an upfront cost closer to $12,200 in 2025, which is $8,600 lower than the advertised cost.

Key government subsidies that may reduce the cost of investing in hardware include:

- Federal Government subsidies, such as the nationally available Cheaper Home Batteries Program that is available for batteries connected to new or existing solar systems, and rooftop solar incentives administered through the Small-scale Renewable Energy Scheme, which each reduce solar and battery system costs around 30%.[92] [93]
- State Government subsidies, such as the Victorian Government Solar Homes Program which offers a limited number of solar panel rebates of up to $1,400 each year.[94]

We provide further detail on how we have estimated system costs in Appendix A, and applied currently available government schemes in Appendix B.

Retailer financing options and government interest free loans can also help customers manage upfront costs (see Section 4.4). However, retailer financing arrangements may

[92] Under the Australian Government Cheaper Home Batteries Program, customers are required to install batteries that are compatible for use in virtual power plants where they are able to feasibly connect to the electricity network. Customers that face barriers to network connection, however, are not required to install virtual power plant compatible batteries.

[93] The Cheaper Home Battery Program and rooftop solar incentives have been quoted by government and industry to provide a 30% subsidy based on typical system costs. In our estimates, we calculate the exact subsidy based on our selected solar system and battery models. See Appendix A for more detail.

[94] As of 26 May 2025, the Victorian Government's Solar Homes Program solar battery loan is no longer applications.

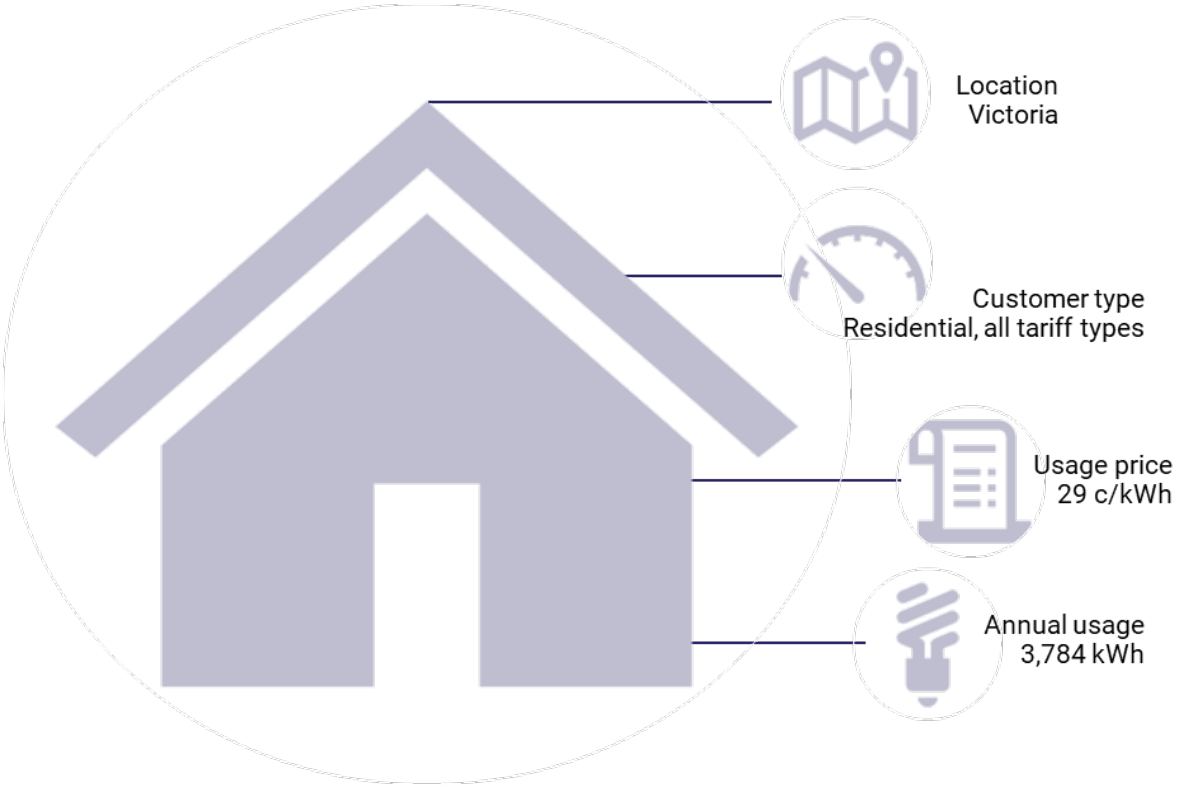
increase the total cost a customer pay backs over time. This is despite any upfront discounts that a customer may receive on their system by purchasing it from their retailer (see Chapter 4). We note customers can often still take advantage of government subsidies while accessing financing arrangements.

Case study: Our representative virtual power plant customer pays back their combined solar and battery system in 8.5 years

Figure 3.24 illustrates a representative residential customer who seeks to participate in a virtual power plant. We use this customer to illustrate what the potential 'payback' period could look like for those who choose to participate in virtual power plants. However, we emphasise that there are many factors which can impact a customer's actual payback period, and that customers should always consider their personal circumstances before choosing to invest in either a battery or solar system.

Figure 3.24: Our representative customer without consumer energy resources

Illustrative diagram of our representative customer without consumer energy resources



Source: ACCC analysis of retailers' data.

Note: The usage price used indicatively for our representative customer is derived from the median usage price that a residential customer in Victoria without solar paid in our billing data for 2023-24.

Our representative customer in Victoria seeks to participate in a virtual power plant but is yet to acquire any consumer energy resources (Figure 3.24). The customer must incur the full cost of a new solar and battery system, which we assume to be around $12,200 after government subsidies. We base this on the most common type of system, which includes a 13.5 kWh battery and 6.6 kW solar system.[95]

[95] Based on ACCC analysis of the AEMO distributed energy resources register dataset.

The same customer expects to recoup their upfront system costs through self-consumption, and the financial benefits they receive from participating in a virtual power plant and exporting self-generated electricity to the grid. As at 2023–24, the median benefits from each value stream amount to:

- Feed-in-tariff rates of 8.8 cents per kWh of electricity exported to the grid
- Virtual power plant participation credits of $180 (received as a fixed annual benefit regardless of how much the operator dispatches from the customer's system)
- High access to their battery notwithstanding the level of control given over to the virtual power plant operator (this is based on the finding from our billing data that operators only dispatched 16/kWh per customer in 2023–24).

Using these assumptions, our analysis finds there is a positive value proposition for our customer to invest in a combined solar and battery system when they participate in a virtual power plant. Figure 3.25 shows they can pay back their initial investment in approximately 8 years and 4 months in present value terms (assuming a discount rate of 5%), which is below the 10-year warranty period for most batteries. This is roughly a year earlier than if the same customer with a combined solar and battery system chose not to participate in a virtual power plant. Similarly, based on modelling from the Clean Energy Regulator this payback period is roughly 5 years more than customers that install only solar systems.[96]

It is worth noting that this analysis is based on a point in time estimate of our representative customer's potential benefits, and the actual payback period may vary substantially if any of these variables changed. For example, if the customer's feed-in-tariff rates declined, the benefits they would receive from solar rebates would decrease, extending the actual payback period (see Chapter 2). Other factors that could impact the customer's payback period include: solar and battery system size, solar intensity, household consumption and associated prices and availability of subsidies in their geographic region. For example, customers in New South Wales generally have access to better solar power generation potential than customers in Victoria. Further, as the New South Wales Government has subsidies aimed at virtual power plant participation.[97] [98]

We provide more detail on our analysis methodology in Appendix A.

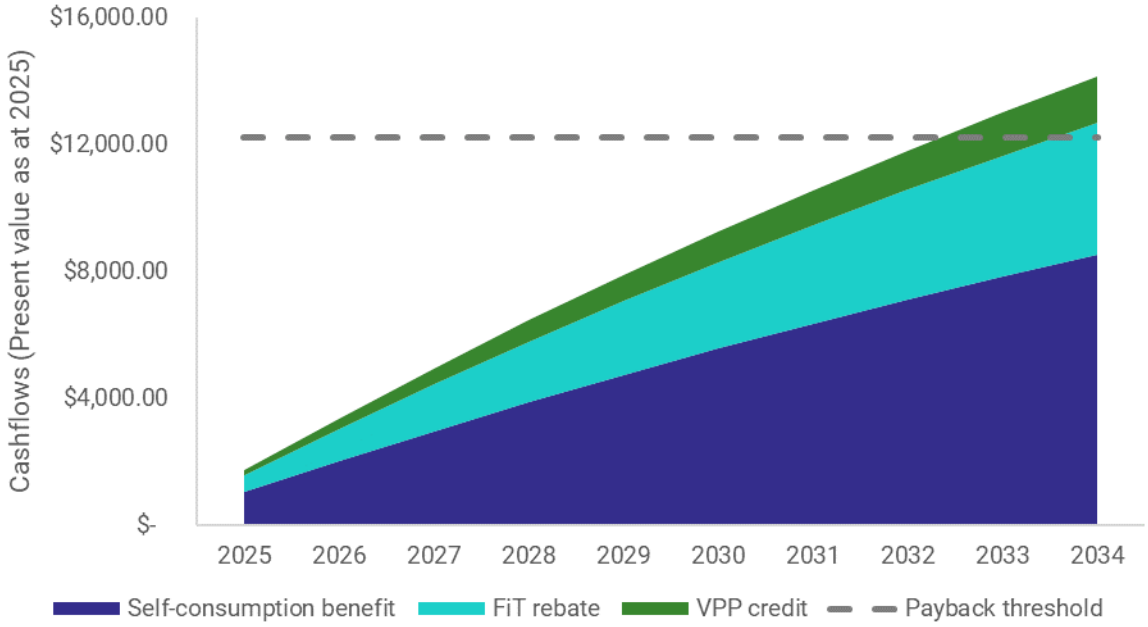
[96] Australia reaches 4 million small-scale renewable energy installations | Clean Energy Regulator, 26 June 2025.

[97] Department of Climate Change, Energy, the Environment and Water, *YourHome Photovoltaic systems*, accessed 3 July 2025

[98] NSW Government, *Connect your battery to a Virtual Power Plant (VPP)*, accessed 3 July 2025

Figure 3.25: Participating in a virtual power plant sees our representative customer payback their system within 10-years

Cumulative cashflows for our representative customer who uses their combined solar and battery system to participate in a virtual power plant over a 10-year period, 2025 to 2034, Victoria



Source: ACCC analysis of cashflows based on retailer billing data, AEMO Distributed Energy Resource register information, AEMO customer load profiles, CER Quarterly Carbon Market Reports and Bureau of Meteorology solar intensity data.

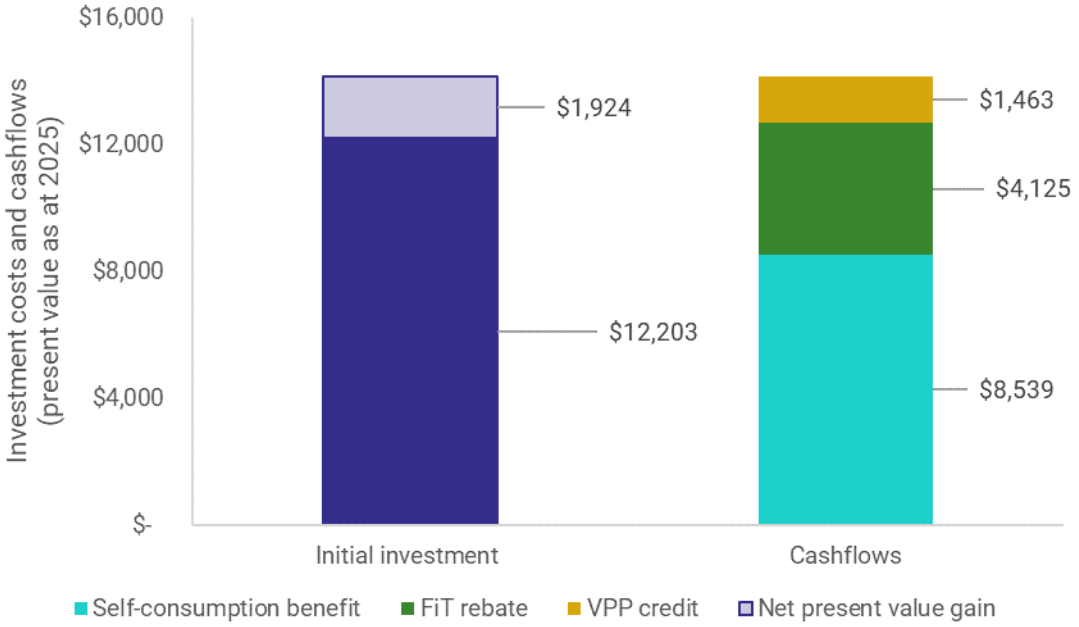
Note: Annual cashflows have been discounted at a rate of 5%.

This analysis also shows that our representative customer makes a positive return on their investment over the 10-year battery warranty period. Figure 3.26 shows that our customer receives a total benefit of $13,700 (roughly $1,500 in excess of their costs to obtain a combined solar and battery system). The vast majority of this benefit is derived from the customer's ability to consume energy from their solar and battery system.

We note this outcome could change significantly if the customer's participation in a virtual power plant impacted their ability to self-consume without compensating benefits. For example, were the virtual power plant operator to increase the amount they dispatched from the customer's combined solar and battery system (such that it affected the customer's ability to both consume and export self-generated electricity, particularly during peak times) and maintained the same compensation. The customer would receive a lower benefit from self-consumption and the same virtual power plant bill credit, and so have a reduced return on investment. In Section 3.3.2, we observe the potential impact of high virtual power plant battery usage on customer bill outcomes in our EnergyAustralia case study.

Figure 3.26: Our representative customer receives benefits in excess of their system costs

Comparison of the initial investment cost and the present value of cashflows for our representative customer who uses their combined solar and battery system to participate in a virtual power plant over a 10-year period, Victoria



Source: ACCC analysis of cashflows based on retailer billing data, AEMO Distributed Energy Resource register information, AEMO customer load profiles, CER Quarterly Carbon Market Reports and Bureau of Meteorology solar intensity data.

Note: Annual cashflows have been discounted cashflows at a rate of 5%.

3.4. Maximising system benefits from new energy services

The Australian Energy Market Commission has found actively operating flexible consumer energy resources could deliver $45 billion worth of system benefits in net present value terms by 2050. The majority of these significant system benefits are derived from using residential consumer energy resources, and in particular household batteries, more flexibly.[99]

For the system benefits to be realised, more consumers need to choose to invest in systems and participate in virtual power plants. This means customers need confidence to make investment decisions and assurance that the benefits they receive from these products and services will outweigh their upfront costs and will not compromise their access to an essential service.

Effective competition among virtual power plant operators should also encourage and support consumer investment decisions. Effective competition supports customer take up of solar and battery systems through the incentives it provides operators to:

- pass on the benefits they receive from the control of home solar and battery systems to consumers

[99] Energeia, Benefit Analysis of Load-Flexibility from Consumer Energy Resources: Final Report (prepared for the Australian Energy Market Commission), 26 March 2025, p 7.

- engage in innovation and design better product offerings.

As we have observed in Section 3.3.1, the market for new energy services is still emerging but shows positive signs of competition. There are already a number of providers offering a diverse range of virtual power plant products and benefits for participation to suit the needs and preferences of consumers. This includes products with low upfront costs for customers with limited financial resources. Encouragingly most providers are smaller retailers and non-traditional energy providers who typically place competitive constraints on larger retail operators.

3.4.1. Linking battery subsidies to their capacity to deliver system benefits

We expect government subsidy schemes such as the recent Cheaper Home Batteries Program, will continue to support the take up of new energy services and the associated development of new energy services. In Section 3.3.1, we observe a significant increase in customers installing grid-connected batteries (in line with subsidy arrangements) with lower numbers taking up participation in virtual power plants.[100]

This raises the broader policy question of whether subsidies should be linked to virtual power plant participation with the objective of increasing the contribution batteries make towards the broader energy system. Uncoordinated batteries already offer benefits through the reduction of wholesale and network demand at peak times (see Section 3.3.3, and particularly Figure 3.21). However, Ausgrid's battery virtual power plant trial suggests batteries that are coordinated in virtual power plants could reduce peak evening demand by 3–4 times that of uncoordinated batteries.[101]

The New South Wales government provides incentives for customers with batteries to join virtual power plants (until 30 June 2025, customers in New South Wales were also able to access financial assistance for the upfront installation costs of a battery. The subsidy was provided as a discount through an accredited installer with the size of the discount calculated on the capacity of the battery. In Section 3.3.1, we observe these incentives appear to have improved virtual power plant participation.[102]

This experience suggests it is possible for government to design subsidy schemes that incrementally reward contributions to broader government policy objectives, such as reducing overall system costs. Where governments seek to provide battery subsidies, the ACCC supports these being proportional to the level of system benefit provided, recognising that having a battery provides both consumer and wider system benefits, and that coordination delivers even greater system benefits.

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100 There may be several reasons for customers with installed battery systems to not participate in virtual power plants aside from insufficient financial incentives. There include customers having concerns around system autonomy and having older battery or solar models that are not compatible with virtual power plants.

101 Ausgrid, *Virtual Power Plant Progress Report November 2020*, as cited in Mike B. Roberts, Sophie M. Adams, Declan Kuch, *Social license to automate batteries? Australian householder conditions for participation in Virtual Power Plants* (2023), accessed 16 May 2025.

102 NSW government, Sign your battery up to a Virtual Power Plan (VPP).

3.4.2. Competition is central to maximise consumer benefits from reforms

The Energy and Climate Change Ministerial Council is currently coordinating a series of regulatory reforms through the National Consumer Energy Resources (CER) Roadmap. [103] The objective of these reforms is to enable consumer energy resources to provide services to the broader electricity system with greater flexibility.[104]

In Section 3.3.4, we outlined how virtual power plant operators already have the ability to use their control over consumer assets to dispatch electricity into the grid and to provide ancillary services. Although, we observe operators have the capacity to dispatch more electricity than they currently do, they typically do not coordinate consumer assets to the fullest extent allowed in virtual power plant agreements.

Creating more opportunities for operators to provide market services will see virtual power plants unlock additional benefits to the system. According to the Australian Energy Market Commission, removing regulatory barriers to consumer energy resource flexibility could unlock annual system benefits of $14 billion dollars by 2050 through avoided wholesale costs (88%), network expenditure (11%) and frequency control ancillary services (1%).[105]

This may involve allowing virtual power plant operators greater access to existing service markets. Facilitating the entry of virtual power plant operators into existing service markets could place competitive constraints on larger participants and encourage more efficient outcomes, including lower cost services. The Energy and Climate Ministerial Council notes the integration of consumer energy resources will deliver benefits to all customers through lower wholesale and network costs that ultimately reduce bills.[106]

Reforms occurring under the National CER Roadmap may enable virtual power plant operators access to service markets (such as wholesale and ancillary service markets). This includes recent changes that the Australian Energy Market Commission has made to the National Electricity Rules which allow retailers that are also virtual power plant operators to schedule their loads for dispatch and regulation frequency control ancillary services.[107] In the process of making these reforms, however, we encourage policy makers to further consider how non-retailer operators and operators with small aggregation capacities could be enabled to provide services to the broader system.

In addition to creating opportunities for operators to provide market services, another reform may involve creating the conditions for new service markets to emerge. Energy Consumers Australia has submitted that formalising a distribution system operator role, with clearly defined responsibilities, would facilitate increased participation of operators in existing markets and enhance the potential for new markets to emerge.[108] Distribution System Operators could be responsible for the planning, operation and optimisation of distribution systems, and create flexibility markets to procure services that assist them in managing network congestion and load, reducing the need for network investments.[109]

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103 The Energy and Climate Change Ministerial Council's National Consumer Energy Resources Roadmap, p 12.

104 The Energy and Climate Change Ministerial Council's National Consumer Energy Resources Roadmap, p 12.

105 Energeia, Benefit Analysis of Load-Flexibility from Consumer Energy Resources: Final Report (prepared for the Australian Energy Market Commission), 26 March 2025, p 4.

106 The Energy and Climate Change Ministerial Council's National Consumer Energy Resources Roadmap, p 8.

107 *Integrating price-responsive resources into the NEM* – Rule determination, AEMC, 19 December 2024.

108 Energy Consumers Australia, Opportunities for consumer energy resources participation in wholesale markets and grid services, June 2025, pp 47-51.

109 The Energy and Climate Change Ministerial Council's National Consumer Energy Resources Roadmap, pp 25, 28.

The Department of Climate Change, Energy, the Environment and Water has recently released a discussion paper on, *Redefining roles and responsibilities for power system and market operations in a high CER future*, July 2025. The project is being jointly run by the Consumer Energy Resources Taskforce with support from the AEMC.

The ACCC continues to support markets being used as the mechanism to coordinate the delivery of system services. We encourage policy makers, as they consider the future role of Distribution Network System Providers and the potential formalisation of a Distribution System Operator model, to consider operating principles for Distribution System Operators that facilitate competition drawing on the experiences of other international policy makers and market bodies.[110]

[110] For example, the United Kingdom launched its dedicated distribution system operator model in 2023 to act as an independent system planner and operator to accelerate the transition to net zero. This along with and coordination of processed helped facilitate the creation of flexibility markets.

4. Customer contracts for new energy services

Key Points

- Consumers make significant investments when purchasing solar and battery systems which should be protected when they participate in new energy services. Chapter 3 highlights the complexity of evaluating this investment decision, and the range of variables that a consumer would need to consider.
- While consumer energy resources (and new energy services) open up possibilities and enable consumers to access lower bills, they also invite consumers to interact with the energy market in new ways and allow greater external control by retailers.
- For these reasons, the consumer protection framework should adequately support customers, so they can confidently and safely engage in competitive markets and support the transition to a low-carbon, innovation-driven economy.
- To understand emerging consumer risks for new energy services, we analysed contracts for behavioural demand response programs, electric vehicle tariffs and virtual power plants and spoke to Ombuds schemes to see how participation in new energy services was manifesting in consumer complaints.
- We found risks were lower for offers where consumers had more control, shorter contract terms and limited lock-in fees. However, risks may increase where virtual power plant operators have scope to exert greater control, which may affect household usage (and benefits associated with self-consumption) and where retailers can remotely control appliances.
- Consumers are accessing third party financing to assist with the significant upfront purchase costs of energy assets. This highlights the importance of the consumer investment decision and increases the potential risk to consumers if they enter payment difficulty and are unable to service their financing arrangements.
- The Government is currently considering existing, emerging and future issues related to consumers' access to energy. The Better Energy Customer Experiences review will include assessing the role of an overarching consumer duty, and more generally the role that principles-based regulation could play, in addressing systemic consumer issues in the energy market, alongside providing flexibility to future-proof the framework to address unforeseen consumer risks arising in the future.[111]
- The ACCC supports the development of an overarching consumer duty for current and future energy services as well as further consideration by government of how it would interact with the National Energy Customer Framework and the Australian Consumer Law. To assist policymakers, we have highlighted challenges relating to new energy services that a new energy-specific consumer protection framework would need to address. We have identified these challenges through our analysis of customer contracts and the ACCC's experience as the national competition, consumer, fair trading and product safety regulator to assist policymakers in their consideration.

[111] Energy and Climate Change Ministerial Council, *Consultation paper – Better Energy Customer Experiences*, Energy and Climate Change Ministerial Council, Australian Government, April 2025, p 7.

- To achieve the maximum level of participation by consumers in energy markets, including for new energy services, energy-specific consumer protections should oblige energy service providers to:
  - ensure consumers are no worse off and are fairly rewarded
  - protect the investments made by consumers in energy assets
  - set guardrails to protect consumers where external control is contemplated
  - design and distribute energy offers in a consumer-centric way.

In this chapter we:

- note the work undertaken and in progress to update the consumer protection framework (section 4.1)
- analyse a range of customer contracts for new energy services (section 4.2)
- examine the growing use of financial and subscription arrangements to finance consumer energy resources (section 4.3)
- analyse customers' experiences as reported to state Ombuds schemes (section 4.4)
- identify several challenges for consumers participating in virtual power plants programs and new energy services more broadly (section 4.5)
- offer insights that could support or inform amendments to the energy-specific consumer protection framework and an overarching consumer duty (section 4.6).

To facilitate this analysis, we analysed publicly available contracts for 16 products from 13 providers. Of these 13 providers, we collected billing information for 8 providers as reported on in Chapter 3.

We relied on this data to analyse common business models for new energy services and common contractual terms.

To inform our consideration of financing and subscription arrangements we collected information (customer numbers) as part of our billing data and survey results, and identified 8 retailers offering financing or subscription arrangements for consumer energy resources.

We furthered this analysis by seeking complaints information from Ombuds schemes in New South Wales, Victoria, Queensland and South Australia.

4.1. Customers need strong energy consumer protections

The NEM is transitioning and so too is the consumer experience. Retailers now offer their customers services beyond the basic but essential supply of electricity. New energy services make use of customer generation and storage, smart appliances that can be preprogramed or operated remotely, and digital information from smart meters and other sources such as weather forecasts and market data. Governments recognise that the expansion of these energy services goes beyond what was considered when the energy-specific consumer protections of the National Energy Customer Framework were first established. This means that new energy services, or aspects of these services, may fall outside the remit of the current electricity-specific regulatory framework.

Numerous reviews of the current and future consumer protections framework for new energy services have occurred or are underway as follows:

- The Australian Energy Regulator undertook a review of consumer protections for future energy services in November 2023 and recommended reforms to broaden the application of the National Energy Customer Framework to cover new services and providers.[112]
- The Victorian Department of Energy, Environment and Climate Action consulted on a proposed approach to broaden the licencing framework that provides energy-specific consumer protections in Victoria. The Department expects to publish a recommendations paper for the Consumer Energy Resources Consumer Protections Review in mid-2025.[113]
- The Department of Climate Change, Energy, the Environment and Water is undertaking consultation on the Better Energy Customer Experiences to ensure that customer protection frameworks are suitable and effective. This program builds upon the Australian Energy Regulator's previous review. The Better Energy Customer Experiences Review:

  > will include assessing the role an overarching consumer duty, and more generally the role that principles-based regulation could play in addressing systemic consumer issues in the energy market, alongside providing flexibility to future-proof the framework to address unforeseen consumer risks arising in the future. Consideration of an overarching duty will include assessing how it would interact with existing Australian Consumer Law and NECF obligations and whether changes to the current provisions would be needed if it were progressed.[114]

- A Directions Paper is scheduled for December 2025, with recommendations to Energy Ministers and an Implementation Plan in early 2027.[115]

While the future framework for energy-specific consumer protections is being developed, the Australian Consumer Law continues to apply to these services as set out below in box 4.1.

Box 4.1: The Australian Consumer Law provides economy-wide consumer protections

The Australian Consumer Law is the principal consumer protection law enforced by the ACCC. It provides economy-wide consumer protections, including in relation to new energy services, that may not be currently covered by energy-specific consumer protections.

The Australian Consumer Law prohibits a range of conduct including:

- unfair contract terms in standard form contracts. Contract terms are unfair if they would cause a significant imbalance in the parties' rights and obligations under standard form contracts, are not reasonably necessary to protect the party's legitimate interests and would cause detriment it they were to be applied or relied on[116]

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112 Australian Energy Regulator (AER), *Review of consumer protections for future energy services – Final advice*, AER, Australian Government, November 2023, accessed 10 June 2025.

113 Victorian Government, *Consumer energy resources (CER) consumer protections review*, Engage Victoria website, Victorian Government, n.d., accessed 18 June 2025.

114 Terms of Reference – Better Energy Customer Experiences - Department of Climate Change, Energy, Environment and Water, p. 3.

115 Terms of Reference – Better Energy Customer Experiences - Department of Climate Change, Energy, Environment and Water, p. 5.

116 Australian Consumer Law Part 2-3.

- misleading and deceptive conduct[117] including in relation to false or misleading representations
- unconscionable conduct[118], such as if a business knowingly targets consumers experiencing vulnerability and unfair practices.

The Australian Consumer Law also provides specific requirements for when goods or services are sold via unsolicited agreements, which includes door knocking or telemarketing.

Additionally, consumers automatically receive consumer guarantees which are relevant in the context of new energy services.[119]

When consumers acquire goods and services from Australian suppliers, importers or manufacturers, they have basic rights called consumer guarantees, which include (but are not limited to):

- goods being of acceptable quality
- services being provided with due care and skill
- goods and services being fit for a particular purpose
- goods matching their description
- honouring express warranties on goods.

If goods or services do not meet a guarantee, consumers have rights to remedies such as refunds, repairs, replacements or cancellation of the contract. The remedy received depends on whether failure to comply is major or minor.[120] Consumers and small businesses may face barriers in taking action to enforce their consumer guarantee rights. The Government is currently considering new penalties for businesses that do not give consumers a remedy when required to under the Australian Consumer Law.[121]

4.2. Analysis of new energy service customer contracts

We have conducted a study of contracts for common types of new energy services – behavioural demand response programs, electric vehicle tariffs and virtual power plants.

Our high-level observations are:

- Even products of the same type of service vary significantly, which may make it difficult for customers to compare product offerings.
- New energy services are often 'bolted on' to energy supply contracts.
  - This increases the complexity of energy products, by increasing the terms and conditions consumers are asked to engage with.

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117 Australian Consumer Law Part 2-1.

118 Australian Consumer Law Part 2-2.

119 Consumer guarantees apply to the provision of electricity, which is defined as a 'good' under the Australian Consumer Law. Although there are options for future regulations to exempt the supply of electricity under the Australian Consumer Law, this has not currently been enlivened.

120 Australian Competition and Consumer Commission (ACCC), *A guide to consumer guarantees for consumers*, ACCC, Australian Government, n.d., accessed 18 June 2025.

121 Treasury, *Consumer Guarantees and Supplier Indemnification under Consumer Law*, Treasury, Australian Government, 16 October 2024, accessed 17 June 2025.

- For example, one retailer's new energy service offer comprises 3 sets of terms and conditions.[122] If customers were on a regular market contract only, this would be governed by 20 clauses.[123] If customers were on the new energy service offered by this retailer, they would be bound by the same 20 clauses, plus an additional 40 clauses.
    1. Market retail contract (relating to energy plan) – 20 clauses
    2. New energy service terms and conditions (relating to energy plan)[124] – 12 clauses
    3. New energy service system contract (relating to system and its operation) – 28 clauses.[125]

- Contracts that seek to recover equipment costs expose consumers to greater risks. If customers' financial circumstances change, products with significant exit fees may increase customers' financial hardship.
- Additionally, contracts with lengthy contract terms may lock customers in and present barriers to switching. Further, many products only work with specific makes and models of consumer energy resources.
- We also observed that the non-price-related contract terms for some products can be changed during the life of the contract. Some contracts included consultation with customers about proposed changes and options to exit without penalty. This is discussed further under 4.5.5.
- As new energy services are nascent and evolving, there may be changes to the types or availability of products offered.

122 EnergyAustralia, *Solar Home Bundle*, EnergyAustralia website, n.d., accessed 17 June 2025.

123 EnergyAustralia, *Market Contract*, EnergyAustralia website, n.d., accessed 17 June 2025.

124 EnergyAustralia, *Solar Home Bundle Terms*, EnergyAustralia website, n.d., accessed 17 June 2025.

125 EnergyAustralia, *Solar Home Bundle System Contract Terms*, EnergyAustralia website, n.d., accessed 17 June 2025.

We provide a broad overview of the new energy service products and their potential risks below.

Table 4.1: Overview of contractual terms and potential risks for each type of new energy service

Product	Overview of contracts	Overview of risks
Behavioural demand response programs The offers we analysed require customers to actively participate in reducing their usage, following the receipt of a notification.	▪ Typically an add-on product that rewards customers for usage reduction ▪ Participation for each upcoming event is on an opt-in basis ▪ Financial benefits not always clear (e.g. unknown and changeable relative cash value of participation credits)	**Lower risk when delivered on an opt-in basis** The opt in nature of these services preserves consumer choice, however, the financial rewards to consumers are modest or unclear (for example a chance to win a prize).
Electric vehicle tariffs	▪ Typically a service where customers can choose to shift their charging to a time when usage is cheaper or free. ▪ Customers can override automated scheduled charges but need to be aware of resulting higher costs.	**Lower risk** ▪ There may be poor customer experiences with the performance of digital platforms. ▪ Potential for bill shock if customers override automated scheduled charges. ▪ Customers may need to invest in fast charging equipment to take advantage of lower priced or free charging windows. ▪ Risk may increase depending on the guardrails around provider's control.
Virtual power plants Generally, there are 4 types of virtual power plant product offerings. This is explored further below in Table 4.2.	Depending on the product offering: ▪ Contract terms can range from about 1 to 12 years. ▪ Provider has limited to complete discretion to use consumer battery. ▪ Exit fees range from small (remainder of discount applied) to large (remainder of system cost) amount.	**Elevated risk for some products** Lengthy contract term and potentially large exit fees can occur where the virtual power plants involve: ▪ financing on solar and/or batteries ▪ consumers hosting provider-owned resources.

Source: ACCC new energy service contract analysis.

4.2.1. Behavioural demand response programs

As discussed at section 3.1, the behavioural demand response programs we considered invite participating customers to voluntarily reduce their energy usage in response to a notification from their retailer during a high demand event. They do not involve ceding control of devices to retailers or other parties and present a lower risk opportunity to participate in a new energy service.

Customers must simply reduce their consumption compared to past usage data during the peak demand period. The only hardware requirement is that customers have a smart meter and customers can choose whether or not to participate in the demand response event without penalty.

However, some of the contracts we considered did not provide all the information necessary for customers to make informed choices about whether a reduction in energy consumption would be worth the financial benefits of participation.

Some were unclear as to how customers could earn increased levels of credits or rewards. Others were vague in defining the value of any reward a participating customer could earn. For example, where a certain number of undefined 'credits' can be exchanged for gift cards or used to reduce bills. Consumer participation in behavioural demand response programs could be increased if the rewards are clear and tangible, and set at a level that incentivises consumer participation.

We consider the offers we analysed to be lower risk compared to other new energy services. However, for behavioural demand response programs that involve the coordination of smart appliances to automatically reduce load during a peak demand event, we find that risks are greater and guardrails are particularly important to ensure effective consumer outcomes and the success of these programs.

Behavioural demand reduction programs

In contrast to the most prevalent behavioural demand response programs offered by retailers, other programs and trials exist in which usage reductions are automated through external control of appliances (such as a distribution business turning down a customer's air conditioning).[126]

There are currently trials on this type of demand response model in South Australia[127] and more established programs such as the one operated by the Queensland government-owned Energex which offers South East Queensland consumers an incentive for participating in PeakSmart.[128]

In 2025, there have so far been 6 PeakSmart events which occurred in January when South East Queensland customers' air conditioners were remotely capped to operate at 50% or turned off in particular substation areas for short periods of the day.[129] In 2024, of the 10 events that are registered on Energex's website, 5 of these involved compressors being switched off. On the other 5 occasions, air conditioners were capped at 50%.[130]

These programs are designed to help manage demand when the network reaches a point of extreme stress, such as during a heat wave, and can deliver significant benefits. However, there have also been some reports of consumers being significantly impacted as a result.[131]

We consider these programs, and similar programs which involve the coordination of smart appliances to automatically reduce load during a peak demand event, can shift a significant

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126 Jacinta Bowler, 'How losing control of your air conditioner may reduce blackouts and save money - ABC News', *ABC*, 26 February 2025, accessed 4 July 2025.

127 SA Power Networks, *Energy Masters Lessons Learnt Report 1*, SA Power Networks, September 2024.

128 Energex, *PeakSmart air conditioning rewards*, Energex website, Queensland Government, n.d., accessed 19 June 2025.

129 Energex, *PeakSmart air conditioning rewards*, Energex website, Queensland Government, n.d., accessed 19 June 2025.

130 Energex, *PeakSmart air conditioning rewards*, Energex website, Queensland Government, n.d., accessed 19 June 2025.

131 Jacinta Bowler, 'How losing control of your air conditioner may reduce blackouts and save money - ABC News', *ABC*, 26 February 2025, accessed 4 July 2025.

degree of control away from consumers. While they are valuable initiatives that help prevent black outs at times when power is needed most, appropriate guardrails are necessary to ensure the essential needs of participating individuals are also met, and to ensure the ongoing success of these programs.

4.2.2. Electric vehicle tariffs

Electric vehicle tariffs are designed to encourage consumers to charge their vehicles at times when electricity demand is low or there is excess solar generation in the grid.

As discussed at section 3.2, simple and static electric vehicle tariffs designate a few hours in the middle of the day or overnight as a low priced or 0 c/kWh usage window. Like all time of use pricing, consumers who fail, or are unable, to make effective use of the low-priced periods and charge electric vehicles from the grid during peak times may experience bill shock.

More dynamic, automated electric vehicle tariffs discount electricity consumption used to charge electric vehicles as part of a scheduled charge controlled through a retailer's app. This approach is less passive with the application actively assisting the consumer to charging at beneficial times. These apps also have the flexibility for consumers to override the scheduled charge should the vehicle be needed sooner than expected. However, customers need to be made aware that each decision to override a scheduled charge will come at a cost with higher usage rates applying.

Additionally, retailer applications rely on digital energy management platforms and manufacturers providing digital access to the control and monitoring software installed on electric vehicles. If issues or consumer complaints arise about scheduled charging, it may be difficult to establish which party is at fault and how it can be rectified.

Risks and complexity may increase once electric vehicles tariffs start to feature two-way charging, where customers use the electric vehicle like a home battery.[132] Once two-way charging is enabled, retailers will need to negotiate conflicting incentives with consumers, as providers will want to gain maximum use from the battery including setting a minimum number of hours that the car is plugged in at home, and consumers may want the freedom to use their car when they want, or will at least need to understand the cost implications of each of these decisions.

4.2.3. Virtual power plants

As discussed at section 3.3, virtual power plants may provide financial rewards and greater autonomy for customers. However, depending on the product, there may be certain trade-offs.

Our analysis of contract terms for virtual power plants included 12 retailers and 6 non-retailer providers. An overview of these virtual power plant offerings is listed in Table 4.2 below.

Broadly, there are 4 types of virtual power plant products. Each type offers varying levels of barriers to access in the form of upfront costs, coordination and exit fees. Generally, lower barriers to access correlate with increased retailer coordination. Often, the most accessible

[132] Australian Renewable Energy Agency (ARENA), *National Roadmap for Bidirectional EV Charging*, ARENA, Australian Government, 12 February 2025.

option (lowest upfront costs) provides the least customer control over the battery, as well as the longest contract terms.

Table 4.2 Overview of contractual terms and potential risks for virtual power plant offers

Product	Overview of contracts	Overview of risks
Virtual power plants - hosting provider-owned energy resources **This is a less common product compared to the other virtual power plant offerings.	▪ Very long contract term (typically 7 years,[133] sometimes longer). ▪ Provider has complete discretion to use consumer battery. ▪ Potentially large exit fees to correlate with the remaining value of the system (for example, $15,000 reduced based on the remaining term).	**Risks** ▪ Potential for lengthy contract term and large exit fees. ▪ Where customers can own the battery after the contract's term, efficacy of the battery (future battery life) may be significantly decreased based on provider coordination.
Virtual power plants - separate financing arrangements with retailers' third-party finance partners	▪ Long contract terms may apply (up to 5 years). ▪ Provider has discretion to use consumer battery, some battery capacity is reserved for the consumer (though this varies amongst plans). ▪ Limited to large exit fees that may arise from failure to make payments.	**Lower to moderate risks** ▪ Consumers can terminate the services agreement but must continue making payments under the separate financing agreement. ▪ This may be a risk for consumers if the nature of the arrangement is unclear or if they face unexpected changes in their financial circumstances.
Virtual power plants - receiving discounts on upfront purchase of the system	▪ Long contract terms may apply (up to 5 years). ▪ Provider has discretion to use consumer battery, some battery capacity is reserved for the consumer (though this varies amongst plans). ▪ Limited to large exit fees (for example, a $2,000 upfront discount reduced based on the remaining term).	**Lower risks** ▪ Consumers own the system upfront but need to repay the pro-rated system discount. ▪ May increase to moderate risk depending on how providers use the battery or if retailer control over the system increases.
Virtual power plants - Bring Your Own Battery	▪ Shorter contract term (typically less than 12 months initially, then a monthly basis).	**Lower to moderate risks** ▪ Lower risks as consumers own the system upfront.

[133] This relates to EnergyAustralia's Solar Home Bundle which is no longer available to new customers. EnergyAustralia does not impose such conditions for other virtual power plant offerings where customers provide their own batteries.

	▪ Provider has discretion to use consumer battery, some battery capacity is reserved for the consumer (though this varies amongst plans). ▪ Limited exit fees (typically the sign-up bonus).	▪ May increase to moderate risk depending on how providers use the battery or if retailer control over the system increases.

Source: ACCC new energy service contract analysis.

As such, the virtual power plant products with greater risks are those where customers:

- host provider-owned energy resources for a fixed period, or
- participate in separate financing arrangements with retailers' third-party finance partners.

As both types of products offer lower barriers to entry in the form of cheaper upfront costs, these contracts usually have longer terms and potentially large exit fees. Due to the significant costs associated with virtual power plants, terms are longer to allow providers to recoup the upfront costs of the system that they would have initially paid for on behalf of the customer.

Likewise, exit fees are large as they typically require customers to pay for the remaining costs of the system based on the term left. It will be important that customers are equipped with accurate and accessible information about the costs and benefits of each of these types of offers before signing up to them.

4.3. Financing and subscription arrangements

Energy providers can offer financing or subscription arrangements to customers for the installation of new energy services such as solar systems, home batteries, electric vehicles and related electric vehicle charging infrastructure. These arrangements help consumers access new energy services by reducing, spreading out, or removing upfront purchase costs.

This section only covers subscription and financing arrangements supplied by retailers and their finance partners. There are many other companies involved in selling, installing and financing consumer energy resources that are not retailers or providers of other energy services, who are not covered by this report. Consumer issues may arise, especially in relation to selling practices, as detailed in the designated complaint we received from the Consumer Action Law Centre.

4.3.1. Customers are financing their solar systems more than ever

There are an increasing number of customers entering into financing or subscription arrangements. Data from our billing data reveals more than 10,000 customers had solar financing arrangements at June 2023, rising to over 13,500 customers by January 2025. However, the uptake in financing for newer types of consumers energy resources is currently much smaller. Our combined billing and survey data indicate that financing for batteries and electric vehicles represents just 26% and 11% of total solar financing.[134]

[134] This is as of 25 January 2025. For more information, see Tab 14 of the Data Appendix.

We identified 8 retailers offering financing or subscription arrangements for consumer energy resources in our billing and survey data. The big 3 retailers serviced the majority of customers seeking financing and subscription arrangements for solar panels and inverters, electric vehicles and related charging infrastructure and batteries.[135] Access to financing or subscription arrangements is not necessarily restricted to retailers' energy customers.

4.3.2. There are various types of financing arrangements

Some retailers offer 'subscriptions' for hardware that enable customers to benefit from such hardware in return for a set monthly fee. For example, both Origin and AGL offer electric vehicle subscriptions, which act as a hire fee for as long as the vehicle is required.[136] This allows customers the option to subscribe to an ongoing electric vehicle hire to experiment with the new technology before deciding to make an upfront purchase.

Other products involve retailers partnering with third-party financial services licensees. These third-party financiers offer financing arrangements to customers who purchase consumer energy resources from retailers directly,[137] either separately or as part of a bundle with other services offered by retailers (including traditional energy supply). For instance, EnergyAustralia's discontinued solar and battery financing arrangement, the 'Empowering Home Plan', part of a NSW Government initiative with Plenti Group, was provided through a financial services and credit provider rather than as an in-house payment plan.[138]

Such financing arrangements may charge interest, fees and other charges, allowing customers who are interested in new energy services but may not be able to afford upfront costs to access them. Our main observations were:

- **Ownership**: In general, ownership passes to the customer once the financial agreement has been repaid or concluded. Conversely, Origin's solar purchase contract transferred ownership to the customer just prior to installation.[139]
- **Missed payments**: The consequences of missed payments are set out under a financing agreement between the third-party financier and the customer. However, there are relevant termination clauses under AGL's virtual power plant agreement.[140]

These financial services licensees are required to comply with the 'Conduct duty', which obligates them to do all things necessary to ensure their services are provided efficiently,

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135 We note that from January 2025, Origin no longer supplies financing for residential and small business solar and battery installations, although existing customers on such contracts will continue to be served by Origin.

136 Origin Energy, *Electric vehicles subscriptions*, Origin Energy website, n.d., accessed 23 June 2025.

137 AGL, *Compare solar battery bundles*, AGL website, n.d., accessed 23 June 2025.

138 Plenti, *Empowering Homes Program pilot*, Plenti's website, 28 February 2020, accessed 27 May 2025.

NSW Government, *Interest-free loans for home battery systems*, NSW Government website, 20 June 2019, accessed 27 May 2025.

EnergyAustralia, *EnergyAustralia revolutionises residential solar and battery ownership with no upfront costs*, EnergyAustralia website, 18 November 2021, accessed 27 May 2025.

139 Origin Energy, *Customer Contract*, *Origin Energy website*, June 2024, accessed 3 July 2025, clause 9.1.

Clause 9.1 'Ownership of a System will pass to You upon the earlier of: (a) The point in time immediately before the System is installed at the Installation Address; and (b) Payment in full of the Amount Payable for that System'.

AGL, *Supply and Install & Virtual Power Plant*, AGL website, April 2025, accessed 17 June 2025, Product specific terms clause 2.

Clause 2 – '(a) Ownership of the Products will pass to You on the later of the date that: (i) You have paid all of the Purchase Price to Us in full; and (ii) the Products are installed at the Premises.

140 AGL, *Supply and Install & Virtual Power Plant*, AGL website, April 2025, accessed 17 June 2025, Clause 10.7.

honestly and fairly.[141] Similarly, the National Credit Code obligates credit license holders to practice responsible lending and comply with hardship provisions.[142]

Another product offered to consumers, as part of the sale and supply of some energy products, is Buy Now Pay Later (BNPL) finance arrangements. There have been previous concerns that such schemes exacerbated financial hardship for some consumers, as credit checks were not required to access BNPL. Recent amendments to the *National Consumer Credit Protection Act 2009* (Cth) subject BNPL providers to new mandatory obligations. These include modified responsible lending obligations, holding an Australian Credit Licence and becoming a member of the Australian Financial Complaints Authority.

Although these various requirements exist, customers' financial arrangements for such new energy services may not be covered by energy-specific consumer protection frameworks, or financial services frameworks, even if their products include payment plans. Where appropriate frameworks are established, it will be essential that monitoring is implemented to ensure compliance.

4.3.3. Alternatives to upfront purchase of solar and battery systems – potential risks

We have explored the potential risks in consumers taking up such offers from their electricity retailer.

- **Virtual power plants hosting provider owned systems should not be considered a means of acquiring consumer energy resources** – Where retailers or non-retailer providers retain ownership, those businesses are incentivised to run the system as hard as possible without invalidating the warranty and have set contract terms to maximise their investment over the battery's efficient operational life. Under some contracts, the system is transferred into the customer's ownership at the end of the contract. Under other contracts, customers have the option of buying the system at any time.
- **No evidence of attempts to lock in electricity customers for products without virtual power plants** – Bundling services such as providing telecommunications in addition to energy services may reduce the likelihood that a customer will switch providers.[143]

  Although some retailers only offered financing or subscription arrangements to existing customers, none of the retailers we examined imposed any financial penalty on customers for switching to an alternative electricity provider. Customer payments towards financing and subscription arrangements were kept separate from a customer's electricity bill and could continue irrespective of who the customer's electricity supplier was.

  For virtual power plants hosting retailer-owned systems on a customer's premises, switching retailers resulted in a termination of the contract and the imposition of exit fees. Some non-retailer providers (for example NRN) also offer a similar product but attempt to work with several retailers to allow a customer to switch to a different retailer without needing to terminate the agreement.

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141 This is incorporated into the *Corporations Act 2001* (Cth).

See: Australian Energy Regulator (AER), *Review of consumer protections for future energy services – Final advice report*, AER, Australian Government, November 2023, accessed 15 May, p 30.

142 Australian Securities & Investments Commission (ASIC), *National Credit Code*, ASIC website, n.d., accessed 5 June 2025.

143 Essential Services Commission, *Victorian Energy Market Report*, Essential Services Commission, Victorian Government, 29 November 2021, p 17.

- **Energy Ombuds schemes may not be able to assist** – The provision of multiple services by a single business gives the impression of a unified energy service. However, customers may be frustrated to find they cannot obtain dispute resolution services from the energy Ombuds scheme for their retailer's financing or subscription arrangements. Instead, such products may fall under the Australian Securities Investment Commission or the Australian Financial Complaints Authority's remit.
- **Lack of clarity around how to resolve issues** – Depending on the nature of the issue, there may be an overlap in regulators' jurisdictions as financial contracts and energy contracts fall under different regulators' remits. This may make it confusing or more difficult for consumers to escalate and resolve issues. This is explored further at Section 4.6.

4.4. Ombuds scheme case study

In the next section (4.5), we identify seven consumer challenges that apply to new energy services. Some of the challenges identified have been borne out in the real-world experiences of consumers as reported by state energy Ombuds schemes.[144] To inform this section of the report, we met with representatives of State and Territory Ombuds schemes to hear about the types of complaints they are receiving and resolving in relation to new energy services and drew on published submissions and case studies referred to below.

The case study below highlights the difficulty of integrating multiple businesses and service components into a seamless product offering (Challenge 2), as well as a degree of control being relinquished to virtual power plant operators (Challenge 3) and the difficulty of balancing rights of different parties to virtual power plant benefits (Challenge 4).

[144] Energy and Water Ombudsman Victoria (EWOV), *CER Consumer Protections Review - Submission to the Victorian Department of Energy, Environment and Climate Action's Consumer Protections Review*, February 2025.

Box 4.2: Case study (EWOV): Inability to provide billing data around virtual power plant's use of battery, consumer left out of pocket[145]

Overview

Gary contacted EWOV with a complaint about his retailer and a related virtual power plant agreement. The agreement included selling energy from his battery into the grid when the spot market price exceeded a standard feed-in tariff rate, when his battery was full and when the virtual power plant software "deems it appropriate according to [your] household's energy usage patterns". When the virtual power plant discharged from his battery, he was paid a trading credit in lieu of this feed in tariff, at the spot market price.

Relinquishing control to virtual power plant operators (challenge 3)

The virtual power plant provider drew Gary's battery down to 15% by 8pm each night, requiring him to draw from the grid directly at a higher price. Despite relinquishing control of his battery, Gary advised that he had been paid very little in trading credits, well below the cost to recharge his battery after these discharge events.

Difficulty of integrating multiple businesses and service components into a seamless product offering (challenge 2)

Given the multiple parties involved, it was difficult for Gary to obtain information relating to his virtual power plant.

While Gary was provided access to the virtual power plant software forecasting discharge events, the provider did not give him information about how and when they had utilised his battery to export into the grid, and without this information, Gary was unable to determine whether he had received the correct benefit. Gary had repeatedly tried to call the provider to discuss the issue and was unable to get through.

Separately, the retailer agreed with Gary's view that an error had been made but was unable to document exactly when the virtual power plant software had accessed Gary's battery to discharge to the grid or provide a true reconciliation of how much energy had been discharged to the grid at what value.

Difficulty of balancing rights of different parties to virtual power plant benefits (challenge 4)

As Gary was unable to obtain this information, it was unclear when the virtual power plant was dispatched for Gary, the retailer and the system respectively.

In future, the retailer stated that its software would "learn" about consumer's usage and manage the charge in his battery accordingly, to avoid excessively discharging the battery.

Conclusion

Ideally consumers need to be assured that they are receiving a verifiable return for their participation. Safeguards should ensure consumers are, at a minimum, no worse off because of ceding control. A lack of appropriate safeguards risks undermining the uptake of virtual power plant services.

To guard against a scenario like the one referred to in the case study above, specific consumer protections or examples of discharging a consumer duty might include:

- A requirement that a customer's foreseeable household consumption needs are taken into account as part of the sign-up process.

[145] Energy and Water Ombudsman Victoria (EWOV), *CER Consumer Protections Review - Submission to the Victorian Department of Energy, Environment and Climate Action's Consumer Protections Review*, February 2025, p 40.

- A guarantee that a minimum battery level will always be preserved so that:
  - the battery is operated in accordance with the warranty specifications (thus protecting the consumer's asset)
  - the consumer's own household consumption needs can be met, so they are not forced to draw energy from the grid at peak times for example (or, where this cannot be prevented, that the cost is reimbursed to the consumer). This ensures that the consumer is left no worse off as a result of giving up control.

4.5. Consumer challenges with broader implications for all new energy services

Through our analysis of customer contracts, financing arrangements, and consideration of case studies reported by Ombuds schemes we identified seven consumer challenges. These challenges apply particularly to the acquisition of consumer energy resources and take up of virtual power plant products but have application to new energy services more broadly.

4.5.1. Challenge 1 – Increasing product complexity

Consumers need reliable information upon which to base investment decisions

Consumers make a substantial financial investment to acquire solar and battery systems. Many consumers will want to understand how long it will take before the cost of their initial investment is paid back through savings on their electricity bill. As we discuss in chapter 3 (section 3.3.4), this calculation includes several factors including usage assumptions, geographic location, system capacities and electricity plan pricing.

Customers rely on information from a range of industry participants at every stage of the purchase, including manufacturers, battery sellers, third party salespeople, electricity retailers and installers.

For **battery sellers** (often distinct from a customer's electricity retailer) participating in the Cheaper Home Batteries Scheme from 1 July, they must provide written information to customers on a range of matters including:

- expected payback periods, energy benefits or energy cost savings
- the appropriate battery size in relation to the solar PV system
- the current and expected electricity needs of the premises
- whether additional infrastructure would be required to participate in a virtual power plant
- the expected performance of the battery within the warranty period
- feed in tariffs and export limits.[146]

These new requirements are welcome and, if disclosed before the sale is made, go some way to providing crucial information to enable consumers to make investment decisions.

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[146] More information on the written statements that must be provided by participants of the Cheaper Home Battery Program: Department of Climate Change, Energy, the Environment and Water, '*Intended eligibility for the Cheaper Home Batteries Program*', Department of Climate Change, Energy, the Environment and Water's website, n.d., accessed 26 July 2025.
See also the *Renewable Energy (Electricity) Amendment (Cheaper Home Batteries Program) Regulations 2025*.

However, there will be challenges incorporating all the necessary factors into such documents, especially where the company selling the battery is not the customer's electricity retailer and therefore does not have the relevant pricing information. The terms, conditions and pricing for virtual power plants are an additional complexity (see below). Pricing and usage may also vary unknowably over the lifetime of the assets due to changes in electricity cost components and consumer usage (for example, removal of gas infrastructure or the purchase of an electric vehicle).

We also note that certain selling models may incentivise poor or inadequate information provision to consumers. In the context of unsolicited selling, marketing companies are more likely to use independent contractors and remunerate them based on each successful sale. For example, to make more sales and increase remuneration, salespeople may use high-pressure sales techniques and engage in conduct that is non-compliant with the Australian Consumer Law.[147]

The designated complaint from the Consumer Action Law Centre set out various issues with unsolicited sales not containing the right information, such as an absence of the total price, or no cooling off information or incorrect information.[148]

A consumer's investment decision and choice of offer is often linked

The consumer value proposition of virtual power plants is not always clear due to how technically complex such products can be. This can make it difficult to compare products, especially given the variety of product offerings and a consumer's decision will ultimately depend on their existing assets and/or their capacity to purchase assets up front. For example:

- Some customers may have purchased a home battery upfront but not joined a virtual power plant program.
- Others may have purchased a home battery upfront but later joined a virtual power plant program due to incentives such as bill credits (e.g. AGL) or no bills (e.g. Reposit – see Box 3.4) or government incentives.
- Some customers might not have been able to afford the upfront cost of a battery but were still interested in participating in virtual power plants. More accessible options would be to:
  - purchase a home battery with a retailer who has a partner that can offer a financing arrangement
  - host retailer or third party-owned batteries, in exchange for simplified and fixed monthly bills (e.g. EnergyAustralia Solar Home Bundle,[149] Diamond NRN Virtual Power Plant[150]).

Whether a virtual power plant is a good investment can depend on various factors, including consumers' existing resources, energy needs, financial circumstances and the likelihood that they will move to new premises or renovate. Such circumstances may change over the term

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147 Australian Competition and Consumer Commission (ACCC), *Consultation paper – Unsolicited selling and lead generation*, ACCC, Australian Government, June 2025.

148 Consumer Action Law Centre (CALC), *ACCC Designated Complaint*, CALC website, March 2025, p 11.

149 EnergyAustralia, *Solar Home Bundle*, EnergyAustralia website, n.d., accessed 18 June 2025. This plan is no longer accepting new customers.

150 Please note that this is a joint product.

of a contract, especially when terms for certain virtual power plant plans often range between 5 to 7 years.[151]

The benefits of different plans depend on individual circumstances. Increasing complexity can make it harder for consumers to make this assessment

Consumers must receive clear and accessible information to be able to assess whether the features of the product will align with their reasons for participating in a virtual power plant. Consumers have a range of reasons for entering into virtual power plants, with bill reduction and more affordable access to consumer energy resources the main motivating factors behind consumer uptake of new energy service products. Environmental reasons and greater control over energy use were considered to be significant non-financial motivations. Studies of consumer opinion have also found reliability of supply to be a major concern.[152]

As set out in section 4.3.2, we found that plans offering more affordable access to consumer energy resources tended to allow little to no consumer control of those assets. Such plans do not offer capability for a customer to use the system as a source of backup power during a black out, as discussed in section 3.3.2 and may offer little in the way of cost saving during the period the assets remain in the control of the retailer. However, such plans are likely the most accessible option for many lower income consumers who own their own home.

4.5.2. Challenge 2 – multiple supply chain participants make identifying and resolving responsibility difficult

What may be marketed to a consumer as a cohesive virtual power plant product can often involve multiple parties and distinct service components. These products can be governed by three separate contracts for energy, system operation and financing. Retailers, installers, system operators and financers can all be separate entities working in partnership to fulfil the terms of the contracts. As discussed below, the division of duties between different entities and business arms can:

- hinder the smooth delivery of an integrated service and make liability unclear when issues arise
- be a barrier to Ombuds schemes providing external dispute resolution services.

[151] EnergyAustralia, *Solar Home Bundle*, EnergyAustralia website, n.d., accessed 18 June 2025. This plan is no longer accepting new customers.

[152] Energy Consumers Australia, *PowerUp: Consumer Voices in the Energy Transition*, Energy Consumers Australia, 3 July 2024, pp 18, 27.

Box 4.3: Access to ombuds schemes for customers of new energy services

If issues arise at any stage that cannot be resolved with the provider, consumers can contact their state's energy ombuds scheme. However, this may not always result in resolution or a remedy because energy ombuds schemes can only take on complaints concerning specific consumer protections or businesses:

- **Nature of the complaint** – Consumer protections for new energy services fall under different regulatory frameworks. Energy ombuds schemes can escalate a customer contact to a complaint under the National Energy Retail Law if it relates to informed consent or billing, tariff and payment minimum requirements. However, if a complaint relates to faulty installation of a battery, it may instead be referred to another body such as a building commission or an Office of Fair Trading.
- **Character of the business** – Non-retailer providers of new energy services often fall outside the jurisdiction of energy ombuds schemes. Certain types of businesses, such as electricity retailers, are required to become members of energy ombuds schemes. An ombuds scheme can then recover the costs of resolving disputes from those business that the dispute concerns. It may also direct a member business to comply with a remedy and provide training for handling internal disputes.

  White label retailers

  Ombuds schemes may be unable to take on a complaint even if they appear to be conducted by an electricity retailer and of a topic that ombuds schemes can usually resolve. This can occur where a white label retailer provides a service to a customer.

  White label retailers may operate a virtual power plant under their brand but use a different partnered electricity retailer to meet their regulatory obligations as an energy seller. An issue may not be resolvable by an ombuds scheme if the white label retailer is not a member of the scheme.

Digital energy management platforms

The need for remote automation and control (or 'coordination') of consumer energy resources at scale raises new issues for consumer energy products and introduces yet more supply chain participants.

Energy providers use digital energy management platforms, often developed by third parties, to track weather forecasts, energy consumption, wholesale energy market demand and prices. These platforms then act on this information using intelligent software to control customer batteries, individually or in aggregation, to operate them optimally for the retailer and/or consumer. These platforms also enable scheduled charging for electric vehicles and other new energy services, such as virtual power plants.

To control batteries remotely, digital energy management platforms developers must also integrate with the control software installed on the battery by the manufacturer. Access is at the manufacturer's discretion. The specific makes of battery that can integrate with any particular digital energy management platform is a selling point for developers to electricity retailers and other virtual power plant providers.

This raises additional questions about the quality of the consumer experience such as:

- how a customer's choice of battery may limit their access to the full range of virtual power plant offers

- whether all parties involved in the control or coordination of consumer energy resources through digital platforms are held sufficiently accountable in delivering the expected standard of performance for the customer.

4.5.3. Challenge 3 – Relinquishing some control

A customer who enters into a virtual power plant agreement agrees to surrender a degree of control over the solar and batteries at their premises to the virtual power plant provider in return for some financial benefit. How much control is surrendered can vary from product to product and is largely dependent on:

- **Whether the virtual power plant provider has any ownership rights to the system**

  For example, customers who enter a 'bring your own battery' virtual power plant agreement typically have contracts with greater limits placed on the provider's control.

- **How the virtual power plant provider intends to generate value from the system**

  For example, a provider may intend to regularly charge up the battery with solar during the day and export that solar at times of peak demand to offset some of their exposure to high wholesale prices (see section 3.3.4 for more on how virtual power plants earn revenue for providers)

Where virtual power plant providers exert a large degree of control to run the system hard, the lifespan of the system may be reduced, and the customer may not be able to draw upon electricity from the battery when they expect to. We note that this issue may only become more prevalent in the future given our findings that virtual power plant operators have the potential to coordinate more electricity than they do at present (see section 3.3.4).

Customers must be clearly informed about both parties' rights of control before entering into agreements, protected with safeguards against excessive use, and be fairly compensated for high levels of provider control.

Most common operator control rights and limitations in contracts

Our review of terms and conditions found the most common restriction on the customer use of the battery was the ability for the provider to 'override' the customer's control of the system when the battery is actively used to provide a service to the market.

Common limits on a provider's control included:

- commitments to operate the system in accordance with the warranty
- annual limits on amount discharged from the battery (for example, EnergyAustralia's Battery Ease)
- a minimum specified battery capacity reserved for the customer.

The need for operators to comply with warranties

Commonly, the customer is ultimately responsible for maintaining the warranty if they own the system despite some virtual power plant agreements committing to 'reasonable endeavours' to consider the warranty when controlling the battery.[153]

[153] This applies to EnergyAustralia's Battery Ease plan, where customers participate in a virtual power plant through providing EnergyAustralia with the rights to dispatch an existing battery at the customer's premises. The obligation to maintain the warranty relates to a participating customer's solar and battery system.

Battery warranties typically guarantee a certain level of usable capacity at the end of the warranty period (for example, 70 or 80% after 10 years) provided the battery is used within prescribed usage limits. The usage restrictions we identified in virtual power plant agreements varied from 200kWh to 440kWh per year. However, some agreements limited customer costs rather than usage. For example, AGL instead committed not to increase annual bills of non-demand tariff customers by more than $50.[154]

Depending on how a VPP provider accesses and uses a consumer's battery it may have implications for the battery's lifespan or even impact the warranty. Government websites covering virtual power plant participation for battery owners warn consumers of the impact of additional use on the battery and advise consumers to look for terms that place limits on the provider's access and use.[155]

Heavy operation of consumer batteries affects the life of the asset and have implications for a consumer's upfront investment decision

Virtual power plant agreements that allow the provider heavy battery use may affect the lifetime of the battery. A household battery's participation in a virtual power plant may lead to increased "cycling" (the cycle of charging and then discharging) and lead to quicker degradation than if the customer used it on their own. Batteries have a technical specification called a "maximum depth of discharge" which refers to the maximum proportion of a battery's total capacity that can be discharged before the longevity of the system is compromised. Warranties incorporate this either as an assumption behind the warranted kWh of the system, or as an explicit operational condition.[156]

The impact on battery life should be a key consideration for consumers making an upfront investment decision, or for plans that transfer ownership of the battery to the customer after a number of years. Heavy usage under a virtual power plant agreement may:

- limit the customer's ability to make claims against the warranty based on aggregate throughput or discharge under the virtual power plant once the customer gains the system
- reduce the available usage capacity due to the level of degradation from the provider's high "cycling" of the battery.

As shown at Figure 3.22, (section 3.3.4), current billing outcomes for virtual power plant customers indicate that dispatch to the grid is relatively low. This suggests that coordination levels are currently fairly low. However, this was how VPPs were operated from 2023-24 and may be subject to change.

Providers have the potential to coordinate more electricity in future. Where providers exercise their rights to increase coordination under the customer contracts, this may pose greater risks in the form of decreased access to battery capacity for household usage. This affects customers' self-sufficiency and reduces their benefits, changing the payback period and efficacy of their investment in the system.

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154 AGL, *AGL VPP Services Agreement*, AGL website, June 2025, accessed 21 May 2025, clause 7(a).

155 Solar Victoria, *Virtual Power Plant Benefits*, Solar Victoria website, Victorian Government, 1 June 2025, accessed 3 June 2025.

156 Queensland Government, *Battery Buyers Guide*, Queensland Government website, Queensland Government, 12 February 2024, accessed 21 May 2025, p 16.

Heavy operator control can restrict battery's ability to provide reliability of supply

Many virtual power plants leave no (or minimal) reserve battery capacity available for the consumer. This is an important consideration for homeowners who believe their battery can provide protection from blackouts. As we mentioned above, some virtual power plant agreements explicitly restrict consumers from operating the battery in a blackout.

Presumed benefits should be discussed with customers to see if they align with individual circumstances

Virtual power plant agreements typically allow customers to tap into a level of battery reserve during peak demand periods. This helps ensure customers can access their batteries when they are likely to want to use them — to avoid or reduce the impact of peak electricity usage charges incurred on the customer's bill. Customers regularly tapping into this reserve may contribute to battery degradation. This can create some level of conflicted incentives for use of the system between the virtual power plant and the customer (mitigated by any limitations on usage).

There should be an onus on operators to make sure that any battery charging from the grid results in a net benefit to the customer. In practice virtual power plant agreements should preserve a battery percentage for the customer to enable household use plus usage in line with the battery's warranty.

4.5.4. Challenge 4 – Lack of clarity about who benefits from use of the virtual power plant investment

There is a lack of accountability for retailers to provide consumers with accurate and transparent information on how they use and benefit from their batteries.[157] This may stem from gaps in the current regulatory framework, and the difficulties of managing complex virtual power plant systems.

Through our engagement with Ombuds schemes, we identified that providers are often unable to provide billing data that accurately captures when the virtual power plant had accessed the consumer's battery and exported to the grid. This suggests retailers are not always able to clearly account for when the virtual power plant is being dispatched for the benefit of the customer, retailer and system respectively.

Although virtual power plants are typically governed by service agreements with consumers that specify a retailer's degree of coordination, such agreements typically do not include strict requirements for retailers to provide billing data or demonstrate when, how and for whom the virtual power plant has been dispatched. This is shown in Box 4.4 below.

The inability to provide this information to consumers may make it difficult for customers to understand how they benefit from their participation in the program, especially when they:

- have given up control of their systems to retailers.
- are required to maintain the continued availability of the system. This may be difficult as certain factors might not be within consumers' control (e.g. loss of internet connection

[157] We note that under the Government's Cheaper Home Batteries Program, battery sellers will need to provide written documentation in respect to pay back periods (as we mention above under 'Challenge 1'). However, this does not extend to virtual power plants.

due to a network outage or service disruption). Where consumers try to mitigate this to ensure the continuity of the system, this may result in consumers incurring greater financial costs.

Box 4.4: Contracts may provide for varying degrees of coordination

While different retailers specify varying degrees of coordination in their contracts, various contracts that we examined stated that retailers' rights to use the system prevailed over consumers' rights to control and use it (see Globird below for an explicit statement).

Some contracts more precisely define the respective level of retailer and customer access to the battery (see Origin Loop below[158]).

- **Globird**

  Clause 4.4

  Our right to Use the System prevails over your own right to control and use the System. However, to the extent that we are not making Use of the System, you may control and use it as you see fit and in doing so you may be entitled to be paid VPP Credits by us.[159]

- **Origin Loop**

  3.1 You agree that We may remotely access and control Your Battery at any time during the Term. For example, we may:

  (a) subject to the Offer, from time to time We may charge part or all of Your Battery from, pause charge or discharge of Your Battery, or discharge part or all of Your Battery to, the national electricity grid; and
  (b) preserve the capacity in Your Battery so that it can be used for your consumption at times determined by Us.

  3.2 You acknowledge that our remote access and control of Your Battery may mean there will be less capacity available for Your household usage.

  3.3 We must ensure that your household power supply will not be interrupted when we access or control your Battery.

  3.4 You acknowledge that our orchestration of Your Battery to the national electricity grid may result in charge cycling of Your Battery and that may have an impact on the lifespan of Your Battery.

  3.5 We must be able to control your Battery for at least 90% of the time in each month. The Battery will be considered unavailable and not able to be controlled by us in circumstances including, but not limited to:

  (a) Where your internet/Wi-Fi is disconnected;
  (b) There is a hardware issue with any part of your Compatible System, resulting in it being offline

  3.6 We will aim to leave approximately 20% of energy stored in Your Battery, although this may vary depending on the amount of energy being consumed by your household at the time of export to the national electricity grid. This includes all eligible batteries other than those fitted with a SwitchDin node.

[158] Please note that the Origin Loop VPP does not represent the entirety of Origin's VPP.

[159] Globird Energy, *VPP Terms and Conditions*, Globird Energy website, 24 May 2020, accessed 11 May 2025, p 3.

To provide consumers with certainty and clarity on the efficacy of their significant investments, providers must be accountable.

This could present in the form of requirements to maintain records of the system's usage, account for the costs and benefits accruing to the consumer for their participation and offer accurate and transparent information.

4.5.5. Challenge 5 – Maintaining certainty and confidence in investment when terms can change

Certainty is a crucial factor in investment decisions and whether to participate in new energy services. Customers making these decisions rely on the rights and responsibilities detailed in virtual power plant agreements to guide these choices. Such agreements typically specify:

- the customer's responsibilities in maintaining the optimum operation of the system (such as keeping solar panels free from obstruction)
- the maximum time that devices can be disconnected from the internet
- limits on the amount customers will be billed for the provider charging the battery from the grid.

However, we have also observed that some contracts have built in an ability to vary terms in certain circumstances. For example:

- scope for retailers to unilaterally vary the terms, such as if there are regulatory, or administrative changes (e.g. defining terms more clearly), that have occurred.
- alternatively that retailers would consult with customers on upcoming changes to certain contract terms.
  - This consultative approach ensured that customers would have the opportunity to engage with retailers to understand how the changes may affect them and, as with AGL's virtual power plant, can include a path to terminating the contract without penalty where the customer does not consent to changes.[160]

The risk of contract variations for consumers

Where retailers can unilaterally vary terms, such changes can diminish certainty and potentially dampen consumer confidence in making investment decisions and in some circumstances these terms may even be prohibited under the unfair contract terms provisions of the Australian Consumer Law.[161]

- Impose greater responsibility on customers, in the form of:
  - a continued internet connection
  - maintaining the system to a required standard
  - or holding a certain credit score, to ensure customers' ongoing ability to make payments.

  Greater responsibilities for customers to maintain systems may incur increased costs and time, and/or cause them to be unable to comply.

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[160] Because AGL's financing contract operates independently from its virtual power plant agreement, customers may exit the virtual power plant product but continue to make payments on the system.

[161] Contract terms are unfair if they would cause a significant imbalance in the parties' rights and obligations under standard form contracts, are not reasonably necessary to protect the party's legitimate interests and would cause detriment it they were to be applied or relied on. See Australian Consumer Law Part 2-3.

- Seek even greater control of their battery, such as the ability to discharge it to a greater depth.

  In the short term, this may affect the customer's access to the battery for their household usage. In the long term, depending on the extent to which the retailer discharges the battery, this may affect the efficacy, life span and payback period of the battery. As such, a battery which the customer may have envisaged to run for 10 years may only run for 8 years.

Although these are non-price related contract variations, it may impact the prices and fees that customers face. To aid customers in managing such risks, retailers should provide notices to consumers when key terms or prices change. This better equips customers with the ability to make an informed decision and evaluate their investment as key terms are varied and the industry evolves. Where customers do not agree to changes, there should be options to exit the contract.

4.5.6. Challenge 6 – Limiting the potential for early contract termination to exacerbate, or push people into, financial hardship

Consumers whose circumstances change may be required to terminate their contract. This may result in consumer detriment.

There are significant exit fees for the termination of virtual power plant plans which include financing for the solar and battery systems, or that host provider-owned energy resources for a fixed period.

Fees are higher the earlier a contract is terminated following installation as providers attempt to recover their legitimate equipment and installation costs.

Significant exit fees can exacerbate financial hardship for those experiencing it and may expose such customers to debt collection agencies.[162] Many contracts prevented customers entering into services if they were eligible for concessions, or failed credit checks. Some contractual terms also stated that customers were ineligible to continue the service if they failed subsequent credit checks. Life support customers are also restricted from participating in most new energy services.

While it may be prudent to restrict consumers with limited financial means from entering into long term financial commitments, providers should be sensitive to the consequences of imposing large termination fees on consumers whose circumstances change unexpectedly part way through a contract. Providers should also adhere to any hardship obligations they may owe to customers under energy-specific or financial legislation. Consideration of hardship obligations on other provider types should also be considered.

4.5.7. Challenge 7 – Ensuring adequate consumer safeguards around subsidy schemes

Although subsidies may incentivise consumer uptake of new energy services, it is essential that frameworks are carefully considered and designed to achieve the intended public benefits.

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[162] Consumers may be protected from disconnection for non-payment of virtual power plant exit fees due to National Energy Retail Rule r.116(1)(f). This rule prevents retailers from disconnecting small customers for non-payment of goods and services other than for the sale of energy.

Through the ACCC's prior monitoring roles across various industries, we have found that large subsidy schemes often coincide with increases in consumer harm and detriment across the short, medium and long term.

Previously, we observed this with solar panels and batteries, and in non-energy related markets (e.g. VET-FEE HELP scheme). These issues might occur during:

- sales – this may present in the forms of pressure sales, mis-selling and misrepresentations when the subsidy commences, as businesses try to obtain maximum value from the government subsidies and increased consumer demand
- use of the products
  - when subsidies accelerate the growth of nascent industries, existing frameworks may not be equipped to certify and verify the quality of products sold. This may result in a number of risks, including suitability of the product for the consumer's needs, guarantee issues in connection with quality and performance and potentially consumer product safety concerns, including capacity to meet virtual power plant participation requirements.
  - the short-term retail environment that can arise with the provision of a subsidy scheme can lead to difficulties for consumers enforcing their consumer guarantee rights or product warranty promises, as providers may exit the market, either at the conclusion of the subsidy scheme or due to subsidy reductions.

The ACCC is also currently conducting a review into the benefits and detriments of unsolicited selling and lead generation, in response to the Consumer Action Law Centre's designated complaint. A significant number of the case studies in the designated complaint relate to the sale of solar panels. At the conclusion of the review, the ACCC intends to publish a report on our findings, to explain how businesses use unsolicited selling and lead generation, and how this impacts consumers.

To mitigate such issues, it is essential that large subsidy programs are accompanied by adequate consumer protections.

In the context of new energy services, the Government is currently considering appropriate safeguards to support the Cheaper Home Batteries Program in the short-term. Government incentive schemes can ensure that scheme participation is conditional on commitments to enhanced consumer protections that help to mitigate the heightened risks associated with high demand for these products. For example, the Victorian Government has prohibited participants in the Victorian Energy Upgrades program from engaging in unsolicited sales.[163]

The ACCC will actively monitor for misrepresentations from participants of the Cheaper Home Batteries Program and pay close attention to consumer complaints about batteries installed under the scheme. We will consider appropriate compliance and enforcement options where allegations of ACL breaches are raised in accordance with our Compliance and Enforcement Policy.

In addition, we support governments' consideration of reforms to energy-specific consumer protection framework that may be appropriate for the emerging markets for new energy services. A key component of the reformed framework will be the development of an overarching consumer duty that will protect consumer investments in solar and battery systems whether the fault lies with a retailer or third party.

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[163] Victorian Department of Energy, Environment and Climate Action, *Telemarketing and door knocking under the VEU program*, Victorian Department of Energy, Environment and Climate Action website, 5 August 2024, accessed 23 June 2025.

4.6. Challenges relevant to a new customer protections framework

Consumers make significant investment decisions when purchasing solar and battery systems. The National Electricity Market will benefit if more consumers make these investments and reduce consumption during periods of peak demand. Greater value can be delivered if customers agree to allow virtual power plant providers to coordinate their systems. However, consumer take up is likely to be limited unless they have confidence that their interests are adequately safeguarded by a robust consumer protection framework. Such a framework will mitigate the selling issues and outcomes raised in the designated complaint from the Consumer Action Law Centre.

In the short term, in respect to the Cheaper Home Batteries Program, the Government has stated it will closely monitor implementation and be 'alert to opportunities to keep calibrating the policy so it delivers for households and the energy system'.[164] Consideration of incentives in selling practices will be an important element of this work (see Challenge 7, below).

In the longer term, there is a current policy development process underway through the 'Better Energy Customers Experiences' work program that may deliberate on the full spectrum of interventions open to policy makers. To address the challenges we have identified, that the following areas may benefit from further investigation to support consumer participation in new energy services:

- Tools to assist consumers compare different new energy service products based on personalised information [Challenge 1].
- Disclosure of key limitations so customers understand whether products align with their needs [Challenge 1]. For example, customers looking for increased reliability of supply need to know whether they can access their battery during a blackout.
- Clear information so customers can confirm they are receiving promised economic benefits of new energy services [Challenge 1 & Challenge 3].
- Access to a single external dispute resolution body for new energy service products [Challenge 2]. This may involve expanding the jurisdiction of existing energy ombuds schemes.
- Guarantees about control: for example, maximum discharge depths to ensure consumers have adequate access to their batteries for home use during peak times [Challenge 3].
- Clear articulation of the benefits to consumers and all parties involved in a virtual power plant [Challenge 4].
- Ensuring contract terms are fair and, where customers are locked in, ensuring variations to key terms are limited or consumers receive adequate compensation [Challenge 5].
- Ensuring adequate supports are available to help protect against, and limit increasing, financial hardship [Challenge 6].

Many of these challenges might be at least partially addressed by product design and distribution obligations, similar to those which apply in the financial services sector. The AER has also considered the regulatory reform that should be undertaken to bolster consumer

[164] Minister Bowen, '*Opening address, Australian Energy Week*', Department of Climate Change, Energy and Water (DCCEEW), DCCEEW website, 18 June 2025, accessed 4 July 2025.

protections for new energy services, and has pointed to financial services regulation as providing a useful reference point for the development of an overarching consumer duty.[165] Under the obligations in Pt 7.8A of the *Corporations Act 2001* (Corporations Act) issuers and distributors of financial products must comply with the design and distribution obligations which are intended to help consumers obtain appropriate financial products by requiring issuers and distributors to have a consumer-centric approach to the design and distribution of products. Issuers and distributors are also required to develop and maintain effective product governance arrangements across the life cycle of financial products.[166]

These design and distribution obligations provide a valuable reference point for new energy services. Applying similar design and distribution obligations to new energy services products may be appropriate, for example it may be appropriate to require that:

- energy service providers design energy products that are likely to be consistent with the objectives, financial situation and needs of the consumers for whom they are intended
- energy service providers monitor consumer outcomes and review products to ensure that consumers are receiving products that are likely to be consistent with their objectives, financial situation and needs.

When considering the implementation and enforceability of such consumer protection frameworks, governments should consider the relevant legislation and jurisdiction which issues may fall under. This is especially important for customers who undertake financing arrangements to access new energy services.

Such arrangements are typically governed by a financial contract which is separate from the energy services contract. As financial contracts and energy contracts fall under different regulators' remits, there may be an overlap in jurisdictions depending on the nature of the issue. For example, the ACCC enforces the Australian Consumer Law but the Australian Securities and Investment Commission (ASIC) is the relevant regulator for financial products. Separately, the Clean Energy Regulator administers the Cheaper Home Batteries Program subsidy.

4.6.1. Observations relating to the reform of energy-specific consumer protections

The Better Energy Customer Experiences review will include assessing the role of an overarching consumer duty, and more generally the role that principles-based regulation could play, in addressing systemic consumer issues in the energy market.

The ACCC supports the development of an overarching consumer duty for current and future energy services as well as further consideration by government of how it would interact with the National Energy Customer Framework and the Australian Consumer Law, including whether changes to the current provisions would be needed.

Drawing on our experience as the national competition, consumer, fair trading and product safety regulator, and a close consideration of current offers and billing outcomes for new energy services, we make the following observations which may be of relevance to the Government's consideration of reforms to the energy-specific consumer protection framework.

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165 Australian Energy Regulator (AER), *Review of consumer protections for future energy services – Final advice*, AER, Australian Government, November 2023.

166 Australian Securities Investment Commission (ASIC), *RG 274 Product design and distribution obligations | ASIC*, ASIC, Australian Government, 10 September 2024, accessed 30 June 2025.

New energy service providers should ensure consumers are no worse off and are fairly rewarded

Consumers should be no worse off for participating in a new energy service, such as a virtual power plant, and should be fairly rewarded for their participation.

- A new energy service should be suitable for a consumer's foreseeable household consumption and financial circumstances.
- A maximum daily discharge depth may provide more security to a consumer than an annual dispatch cap, which many of the contracts we analysed offer.
- Batteries that are partially or wholly controlled by a retailer or provider, should be operated in line with the battery's warranty and liability for any battery usage which invalidates the warranty should be borne by the most appropriate party, having regard to the degree of control they exercise. Many batteries set a maximum discharge depth (allowing discharge to no less than 10% of the battery). A consumer's household consumption needs will need to be taken into account, over and above this amount.
- Any limitation that affects a consumer's use of the battery must be clearly disclosed in advance, for example if a consumer will not be able to access their battery in a blackout.

New energy service providers should protect consumers' investments in energy assets

Most new energy services require consumers to make substantial investments in energy assets with many taking on risk and separate finance agreements to acquire these assets. Energy service providers should protect consumer investments in energy assets, when engaging in coordination.

- Consumers would benefit from access to critical information summaries so they can understand the key terms of contracts they enter into in advance and before any variation to existing contracts. Significant changes in pricing structure and price terms, such as solar feed in tariffs, may alter the economics of a consumer's initial investment decision and the estimated payback period for any energy assets purchased.
- Consideration should be given to how new energy services interact with hardship obligations, given the substantial liability consumers taking on finance and debt are exposed to if they enter payment difficulty or experience a change in financial circumstances.

New energy service providers should establish guardrails where external control is contemplated

Consumers who give up or share control would benefit from guardrails when they participate in demand reduction programs and new energy services more broadly. When retailers or energy providers exercise control to manage peak demand, for example, this should be balanced against the interests of the individual consumer who is affected.

- Initial incentive payments and ongoing financial rewards may not provide adequate redress for a consumer who loses access to a critical appliance (such as air conditioning during a heat wave) when they need it.

Energy service providers should establish guardrails such as:

- Limits to the level of control that is exercised, recognising the value of reliable access to energy and consumer appliances. As an example, consumers could retain some degree

of functionality for an air conditioning appliance, while a retailer or provider retained the ability to cap operation of the appliance at 50% or 75%.

- Public reporting of demand reduction events so that:
  - The promised costs and impact of participation can be measured against how control is exercised in practice, and over time. For example, customers may be negatively impacted if the frequency or duration of events increases over time. Statements that consumers won't even notice demand reduction, or that it will only occur a few times a year could be misleading if in fact control is exercised to reduce demand to a far greater extent.
- Reporting to consumers on the outcome of participation and achievement of rewards. This could also include termination rights, so consumers can easily cease participation if the program or service is not suitable for their personal circumstances.

New energy service providers should design and distribute offers in a consumer-centric way

To help consumers navigate and choose the most appropriate new energy services, a consumer centric approach to the design and distribution of offers may be beneficial, for example:

- design energy products in a way that is consistent with the objectives, financial situation and needs of the consumers for whom they are intended.
- monitor consumer outcomes and review products to ensure that consumers are receiving products that are consistent with their objectives, financial situation and needs.

Appendix A: Our analysis

This appendix describes our methodology for collecting, quality assuring and analysing the data presented in this report.

We collected 2 types of information from market participants using our compulsory information gathering powers under s95ZK of the *Competition and Consumer Act 2010*:

- customer billing data and information, used to inform Chapters 2 and 3
- customer contracts, used to inform Chapter 4, which we supplemented with publicly available contracts from another 5 providers.

We substantiated these with other data sources including a survey to energy providers and publicly available information from market bodies (Section A.3).

A.1 Customer billing data

We collected billing information from 8 electricity retailers under section 95ZK of the *Competition and Consumer Act 2010*. These retailers collectively supply electricity to 97% of residential customers and 90% of small business customers across Victoria, New South Wales, South Australia, and South East Queensland. For the first time, we extended our billing data collection to 'new energy services' (electric vehicle tariffs, behavioural demand response programs, and virtual power plants).

Retailers provided billing information for 5 different samples, specifically:

- our 'regular' billing datasets:
  - a sample of their residential customers (either 5% or 10,000, whichever was greater)
  - all small business customers
  - all residential customers on hardship or payment plans
- our 'new energy services' datasets:
  - all residential customers either with an electric vehicle tariff or participating in a virtual power plant
  - all small business customers either with an electric vehicle tariff or participating in a virtual power plant.

Retailers clarified how they distinguished between small business and retail customers, with several stating they had categorised customers based on the distributor tariff or the meter installation type.

Customer billing information was provided for the period 1 July 2023 to 31 December 2024 inclusive. This encompassed different variables, such as account and plan details, tariff types, solar rebates, concessions, bill charges and credits, usage, and hardship status. We have now collected our regular billing data from 1 July 2018 to 31 December 2024. This information has been presented in an anonymised and aggregated format to ensure we do not allow the confidential information of any retailer to be identified.

For the first time, we also sought more granular information on the usage volumes and charges for time of use customers, both in our regular and new energy service datasets. We collected usage information for each time of use window (peak, shoulder, off-peak and

super off-peak). We were unable to collect usage data for self-consumption (which occurs 'behind-the-meter') for solar and new energy service customers, and so all usage results for these customers represents their usage from the grid.

For our new energy service data collection, we added fields related to new energy services, including credits for participating in a virtual power plant or behavioural response program, and usage and charges for electric vehicle tariffs. We also added fields on behavioural demand response programs to our regular billing data collection.

To complement new energy services billing data, we also collected data for the number of customers on each new energy service, and the volume of battery storage capacity and electricity dispatched from retailers' virtual power plants over time.

The geographic scope of our analysis

The National Electricity Market (NEM) comprises New South Wales, the Australian Capital Territory, Queensland, South Australia, Victoria, and Tasmania. While all these states and territories fall within the scope of the current Electricity Monitoring Inquiry, our billing analysis only considers the regions that have effective competition in retail electricity markets, that is:

- New South Wales
- South East Queensland
- South Australia
- Victoria.

As such, we did not collect data for the Australian Capital Territory, Tasmania or regional Queensland.

Hardship, payment plan and concession customers

Retailers supplied every bill issued to residential customers identified as being on either a hardship program or on a payment plan due to financial difficulties. Some of these bills cover residential customers that also receive concessions.

- 'Hardship' customers participated in a retailer's hardship program or received hardship assistance during the billing period.
- 'Payment plan' customers had an arrangement to pay the retailer in instalments.
- 'Concession' customers received an amount funded by a state or territory government that reduced the amount the customer had to pay for electricity.

Most retailers provided data for every customer on hardship and/or on a payment plan due to financial difficulties at any point during the 18-month period from 1 July 2023 to 31 December 2024. However, some retailers could only provide data for customers on these programs as at 1 October 2023 and 1 October 2024.

Nominal and Real

This report provides information in nominal dollars, unless stated otherwise. Nominal dollars exclude the impact of inflation.

Excluding GST

This report excludes GST from all pricing numbers.

A.2 Methodology for billing data analysis

Quality assurance

We checked the provided data for inconsistencies and errors to ensure it is of sufficient quality for use in our analysis. For example, we checked that:

- the size of the residential sample, small business and hardship / payment plan populations by retailer and region were consistent with our expectations based on customer numbers reported by the Australian Energy Regulator and the Essential Services Commission of Victoria[167]
- all variables had been provided for all bills
- invoice dates were consistent for a single bill, and did not overlap with consecutive bills for the same customer
- the postcode, distributor and region were consistent with each other
- numerical signs aligned with expectations, such as positive usage values
- a bill with a discount or solar rebate amount had corresponding details about their type
- a bill with a conditional discount had corresponding information on whether the discount was achieved.
- a bill with a behavioural demand response credit had details indicating the customer participated in the event.

Our checks found several issues with the potential to impact data quality for some retailers. For each identified issue, we contacted the respective retailer for clarification and in several instances, retailers provided updated data. We repeated checks on any new data provided. We then removed bills from the data set where we could not resolve quality issues, and typically also removed all other bills related to the same customer.

Weighting

We adjusted our residential sample to ensure that it was representative of the overall residential customer base, rather than skewed by the over or under-representation of some retailers. We created a new weighted sample where the share of each retailer's residential customer base was the same as the share of each retailer's overall residential customer base. We did not apply weighting to small business or hardship and payment plan samples, as we requested billing data for every customer in these categories.

To create the weighted sample, we took the following steps:

- For each region and retailer, we compared the number of customers in our residential sample, after removal of any customers during the quality assurance process, to the retailer's customer base for the entire period from 1 July 2023 to 31 December 2024.

[167] Australian Energy Regulator (AER), *Retail energy market performance update for Quarter 4, 2020–21*, AER, Australian Government, 2021, accessed 20 April 2023; Essential Services Commission of Victoria (ESCV), *Victorian Energy Market Report 2020-21*, ESCV, Victorian Government, 2021, accessed 16 May 2022.

- We determined which retailer had the smallest percentage share of its customer base, per region, which was 4.27%. These percentages differ from the 5% share of customers in our information request in part because weights are calculated after the removal of any accounts during quality assurance.
- Any retailer found to have a higher percentage share of customers in a region was downsized in the sample by removing customers and corresponding bills through random selection.

Table A.1 shows customer numbers in the weighted samples compared to the overall customer base. Note that these figures include customers each retailer served across the entire 18-month period, and so they are higher than the number of customers served at any single point in time.

Table A.1: Residential customers in weighted sample by region, between 1 July 2023 to 31 December 2024

Region	Customers in sample	Customer base	Sample share of base
New South Wales	179,616	4,206,016	4.27%
South Australia	42,641	998,505	4.27%
South East Queensland	76,852	1,799,606	4.27%
Victoria	138,588	3,245,267	4.27%

Source: ACCC analysis of retailer billing data.

We used weighted samples to calculate all results for regular residential customers, except for hardship and payment plan customers, for which retailers provided information for the entire population.

Note, we weighted our small business sample over the 2018 and 2019 years to account for our previous small business sample collection method. Retailers in the September 2020 reporting period were required to provide a 5% sample or 10,000 customers, whichever was the greater of their small business customer base. However, from the May 2021 reporting period onwards, retailers were required to provide data for every small business customer in their customer bases during the 18-month period requested. As such, we have not weighted time periods after 2019 in the small business sample.

Customer grouping

Assigning customers to groups

To determine which customer group applied to a customer in an analysis period, we checked the status of each variable for all bills that applied to the relevant period. We assigned a customer group only if all bills applying to the analysis period had that status.

Customers experiencing hardship

Consistent with previous reports, we assigned regular customers to 8 independent customer groups based on their concession, hardship and payment plan status in each period. We did this according to the methodology outlined above.

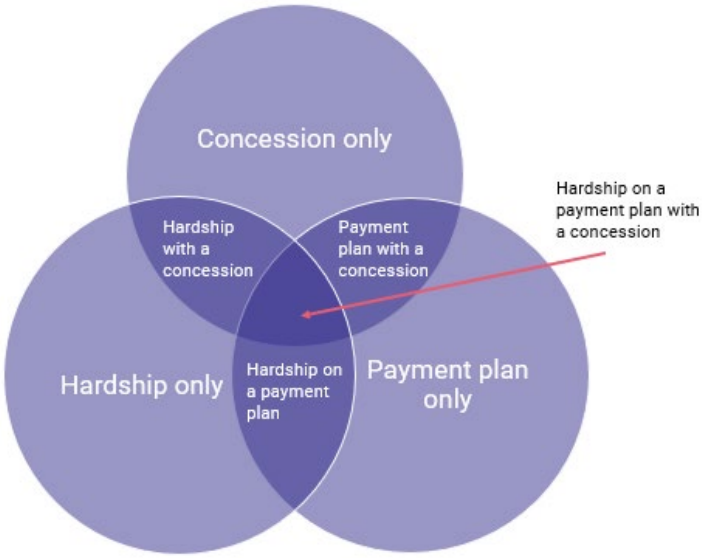
For example, we assigned a customer to the payment plan only group, only if all their bills in a given analysis period had that status. This means that, if 2 bills applied to the analysis period and one showed that the customer was on a payment plan and the other did not, then we did not assign the customer to the 'payment plan only' group for that period. However, if both bills showed that the customer was on a payment plan, we would assign the customer to the 'payment plan only' group so long as both bills do not also show that the customer received a concession and or was on a hardship program.

Each independent customer group may therefore include a small number of customers who had other protections for part of the analysis period.

Customers were assigned to the 'residential without protections' customer group only if they did not have a concession, hardship, or payment plan status on their bills at any time during a given analysis period. We excluded customers that had protections for only part of the analysis period and did not qualify for another customer group.

Figure A.1 illustrates the relationships between each customer group experiencing financial difficulty.

Figure A.1: Our groups for customers experiencing financial difficulty



Source: ACCC.

In this report, we refined our definition of a concession customer. Previously, a concession customer was anyone who received a government concession or rebate that reduced their bill. But, as eligibility for the Energy Bill Relief Fund was expanded to cover all households with an active electricity account from July 2024, we have refined this to be any customer who is entitled to a concession based on some form of eligibility (for example, holding a relevant concession card).

We applied this definition to all customer categories which had a concession (hardship with a concession; hardship and payment plan with a concession; and payment plan with a concession). Customers who received a targeted concession were retained in these groups (regardless of whether they also received the Energy Bill Relief Fund payment). But customers who only received the expanded Energy Bill Relief Fund (and no other targeted concession) were separated out and no longer classified as concession customers. We

applied this definition to our data from quarter 3 2024 (when the expanded Energy Bill Relief Fund commenced).

We chose not to retrospectively apply this definition due to data limitations related to how retailers have previously recorded Energy Bill Relief Fund payments. This means customer numbers in this report are not directly comparable with previous reports. Although, this largely only affects South East Queensland because they were the only state which had broad-based rebates to all account holders prior to 2024. Similarly, results for median bills for each customer group in quarter 3 2024 are also not comparable despite our analysis of what bill amounts would be without the change in method showing only a minor impact on results, and no qualitative differences.

Standing and market offer customers

To calculate the proportion of customers on standing and market offers for an analysis period, we assigned customers to the standing offer customer group using the methodology outlined in the 'Assigning customers to groups' section. We then assigned any remaining customers to the market offer customer group. Therefore, our proportions of market offer customers may include a small number of customers who were on a market offer for only part of the analysis period.

Partial coverage of analysis periods

Some customers do not have complete bill coverage of an analysis period. This may be because a customer joined the retailer part way through the analysis period, or because they switched to a different retailer during the period. The number of customers affected depends on the length of the analysis period (quarterly or yearly).

Including customers with incomplete bill coverage would artificially lower the usage and bill amounts for the affected customers over the analysis period. Therefore, for the purposes of measuring the bill amount and usage, we included only customers with bills covering the entire analysis period. This had the effect of reducing the number of new energy service customers in our dataset, as we observed significant numbers of customers taking up these services mid-way through our analysis period.

Partial coverage: Solar rebate analysis

As in the May 2022 report, for this report we analysed solar feed-in tariff amounts, feed-in supply amounts and effective feed-in rates for feed-in tariff solar customers across third quarters.

Similar to the way we calculated bill amounts and usage, only accounts with complete bill coverage across the relevant analysis periods were included in this analysis. Additionally, only customers who were solar customers for the whole analysis period and had a feed-in supply amount were included. This was to ensure that the feed-in rebate and supply amounts were representative of what a median solar customer receives and exports in the analysis period.

Point in time solar customer proportions

We measure solar customer proportions as at 1 July. This means that if a customer was reported as being a 'Solar Customer' for a bill as at 1 July of a particular year, they were

classified as being a solar customer at that point in time. We then compare numbers and proportions of solar customer as at 1 July across time. This approach allows us to capture all new solar installations in these figures and has been applied consistently since our May 2021 report.

We take a different approach to analysing billing outcomes for solar customers, outlined in the section immediately above.

Year-on-year comparisons

We analysed changes over time by comparing quarter 3 of 2018 through to 2024, or the financial years 2018–19 through to 2023–24, where appropriate.

We generally used data collected as part of our:

- September 2020 report to produce quarter 3 of 2018 and 2019, and 2018–19 results
- May 2021 report to produce quarter 3 of 2020 and 2019–20 results
- May 2022 report to produce quarter 3 of 2021 and 2020–21 results
- June 2023 report to produce quarter 3 of 2022 and 2021–22 results
- June 2024 report to produce quarter 3 of 2023 and 2022–23 results
- July 2025 report to produce quarter 3 of 2024 and 2023–24 results.

One exception to the above was that we replaced quarter 3 of 2020 results for the proportion of customers on standing offers with data collected in the May 2022 data collection period. We consider that this allowed us to present more accurate trends in this proportion, having regard to relevant data from the Australian Energy Regulator and the Essential Services Commission of Victoria.

For all year-on-year analyses, we performed comparisons using quarter 3 data instead of quarter 4 data, due to incomplete coverage of quarter 4 data. This incomplete coverage occurs because bills are issued in arrears, and so most quarter 4 of 2024 bills had not been issued by the time we issued our data collection notices on 2 January 2025.

Government rebates analysis

As we did for the first time in the June 2024 report, we collected data on concessions and rebates from retailers under the below fields:

- 'Energy Bill Relief Fund' rebates funded by the Australian Government scheme and extended to all households from July 2024.
- 'Targeted' concessions payments subject to eligibility criteria, such as holding an eligible concession card or receiving specific government payments. These exclude Energy Bill Relief Fund payments.
- 'General' concessions that are typically state-level funding schemes and may have eligibility criteria, such as being a resident of that state or part of a particular customer group. These concessions are separate from the Energy Bill Relief Fund payments.

We calculated customer bills with and without government rebates, namely the Queensland Government Cost of Living Rebate and the Energy Bill Relief Fund. We did this by adding all bill charge components together and then subtracting all bill credits except for the Energy Bill Relief Fund and General Concessions from the total.

Our bill calculations without these rebates are therefore:

Total bill charges = supply + usage + green + demand + other

Total bill credits = solar rebates + conditional discounts + unconditional discounts + targeted concessions + other discounts

Total bill = Total bill charges – Total bill credits

We adopted this approach because the Energy Bill Relief Fund was often bundled together with other state-based rebates, and retailers are not always able to separate these payments in the data they provided. As a result, we have considered the combined impact of the Energy Bill Relief Fund and the Queensland Cost of Living Rebate together in our analysis where we have presented results 'without rebates'.

Behavioural demand response analysis

We calculated the proportion of customers that participated in retailers' behavioural response programs (either successfully or unsuccessfully), as the number of customers with bills indicating participation in at least one demand response event during a billing period (at an individual bill level). We take this approach as our customer billing data does not provide detail about whether a customer received one or more behavioural demand event notifications, affirmations of participation, and successes within a billing period.

Our analysis of the customer rewards customers received for successful participation in retailers' behavioural demand response events focuses on credits included on a customer's bill. Retailers may offer other rewards, such as gift cards or reward points, which would not be captured in our analysis.

Electric vehicle tariff analysis

We analysed customer electricity use during time of use windows. For customers on electric vehicle tariffs, we understand that the electricity used during 'super off-peak' times may reflect consumption to charge an electric vehicle or use other household appliances. This occurs as there is no restriction on how a customer may use electricity during these 'super off-peak' times. Although, retailers generally require customers to have an electric vehicle registered at their premises to access an electric vehicle tariff. We note that our data is not able to identify differences in the use of customers with electric vehicles on regular plans.

Virtual power plant customer comparisons

We analysed the impact of virtual power plant participation by comparing the outcomes of customers who participate in a virtual power plant against the outcomes of customers with batteries who do not. We compared these customers as the primary difference between them is how their battery system is used.

To identify customers that had a battery, we matched our customer billing data with battery installation data from the distributed energy resource register from the Australian Energy Market Operator (AEMO). This was done using customers' National Meter Identifiers (NMIs) in both data sets. Doing so also gives us a view on the battery installation date and battery product information. Chapter 3 NES data analysis was able to take advantage of available AEMO battery data, while Chapter 2 used only the pre-existing historical analysis

methodologies. Therefore, very minor discrepancies between methodologies may be found in the results for groups such as Solar.

We then identified whether customers with a battery were participating in a virtual power plant based on whether they had an agreement in place. We did this using the new field in our customer billing data (see Appendix C). Note that, in our comparisons, EnergyAustralia has been excluded due to differences in how their virtual power plant is operated compared to other retailers (Section 3.3.2).

Return on investment analysis

Our representative customer is based in Greater Melbourne, Victoria in a postcode with a zone 3 rating for solar photovoltaic systems.[168] Greater Melbourne was chosen due to the city's share of national population (second highest) and the completeness of solar irradiance data. [169] [170]

Cost of solar and battery systems

To calculate the cost our representative customer pays to acquire consumer energy resources, we summed the cost of the most common system components.

- We identified the most frequently installed solar and battery system based on system size from AEMO's distributed energy resource register. For the 2023–24 financial year, this was a solar system of 6.6kW and battery system of 13.5kW. We also identified, through the distributed energy resources register, the most frequently installed model type and other relevant specifications.
- We subsequently retrieved the recommended retail prices for the solar panels, solar inverter, and home battery from the Australian solar installation offer and information aggregator Solarquotes (where all prices are inclusive of GST).[171] Installation costs were estimated based on ACCC analysis of Australian Taxation Office tax data regarding financial items including income and labour costs for the electrical services industry.[172] [173]

[168] A zone 3 rating is the second lowest rating and increases the potential STC allocation for prospective installers by a factor of 1.382; Clean Energy Regulator Calculate small-scale technology certificate entitlements.

[169] Australian Bureau of Statistics Regional Population.

[170] Bureau of Meteorology One Minute Solar Data - List of stations.

[171] Solar quote comparison tables for home batteries, solar panels and solar inverters (accessed 28 May 2025).

[172] Australian Taxation Office Taxation statistics 2021–22.

[173] Australian Bureau of Statistics 3232 Electrical Services.

Subsidies for solar and battery systems

We assessed the amount of federal and state government subsidies available to our representative customer based on their location and system size.

Our representative customer is eligible for the nationally available Small-scale Renewable Energy Scheme (SRES) discount and Cheaper Home Batteries Program (also administered under the SRES).[174] We calculate the discount they would receive for their:

- solar system based on their system size, a deeming period of 6 years (install in 2025), and a small-scale technology certificate (STC) zone rating of 3[175]
- battery based on their battery size, a multiplier of 9.3 and 2025 installation date.[176]

These factors dictate the amount STCs the customer would be entitled to, which we assume to have a per certificate value of $39.90 based on long-term trends.[177]

Additionally, as our representative customer is located in Victoria, they may also be eligible to receive the Solar Panel (PV) Rebate administered through Solar Victoria which provides rebates of up to $1,400 provided they meet set conditions.[178]

Returns derived from solar and battery systems

To analyse the financial benefits our representative customer could receive from their solar and battery system, we estimated the benefits available from energy self-sufficiency, export and participation in a virtual power plant.

We estimated the benefits from energy self-sufficiency and export using:

- a 3-year average of solar irradiance data measured in Watts per m^2 sourced from the Bureau of Meteorology, where the expected solar generation volume was calculated based on the system specifications of the most popular model from the distributed energy resources register (see 'cost of solar and battery systems' for more information on this model)[179]
- the median annual usage for a residential customer in Victoria without solar in our billing data for 2023–24, which we apportioned over the year using a 3-year average of AEMO load profile data for residential customers
- the median usage price that a residential customer in Victoria without solar paid in our billing data for 2023–24, excluding state and federal government bill rebates. This usage price includes customers on flat rate tariffs, time-of-use tariffs and demand tariffs
- the median solar feed-in tariff rate that a residential customer in Victoria participating in a virtual power plant received in our billing data for 2023–24.

Our estimates were conducted on the use and dispatch logic that solar generated electricity is first used to meet our customer's usage needs before it is stored in their battery, with any surplus then being exported to the grid. When solar generated electricity cannot satisfy

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174 To be eligible for the SRES, a customer must install a solar system that has a capacity of less than 100kW and an expected annual output of less than 250MWh. Clean Energy Regulator Small-scale Renewable Energy Scheme.

175 Clean Energy Regulator Small-scale Renewable Energy Scheme.

176 Department of Climate Change, Energy, the Environment and Water Cheaper Home Batteries Program.

177 Clean Energy Regulator Quarterly Carbon Market Report December Quarter 2024.

178 Solar Victoria Solar panel (PV) rebate.

179 Bureau of Meteorology One Minute Solar Data.

customer usage, the electricity is either discharged from the battery or otherwise drawn from the grid.

On this basis, we derived the dollar amount our customer would have paid had they not installed a solar and battery system (based on the amount of grid electricity usage that they were able to meet with self-generated electricity usage instead) and the amount that they would receive in solar rebates (based on the amount of electricity exported to the grid). Degradation rates for solar and battery systems were applied to projected cashflows based on their hardware specifications to account for diminishing returns as these age.

We estimated the benefits from participating in a virtual power plant based on the median benefit a residential customer in Victoria received over the 2023–24 in our billing data.

Calculating the payback period on solar and battery systems

To calculate the payback period, we compared the cumulative annual cashflows for our representative customer against the costs of acquiring a solar and battery system.

We have summed the customer's annual projected cashflows over a 10-year period which have been discounted at a rate of 5% annually such that all dollar amounts are presented value terms (2025 dollars). A rate of 5% was chosen to represent the opportunity cost or next best use of those same funds had the prospective customer invested in an alternative.

We note for this cashflow analysis, the rates for electricity prices, feed-in-tariff rates and payments for virtual power plant participation were kept constant. This means that our analysis considers the return on investment based on current market conditions, although we understand that there is the potential for variance in these payments and rates over time.

The payback point was then determined as the number of years taken for cashflows to equal to system costs.

A.3 New energy service provider survey data

We collected additional information on new energy services from 17 electricity retailers and 2 new energy services providers through a voluntary survey. This survey sought customer numbers from providers not in our dataset for the following new energy services:

- behavioural demand response
- electric vehicle tariffs
- virtual power plants.

We also sought views on financing/subscription agreements for consumer energy resources (that is, solar, batteries, electric vehicle chargers, electric vehicles).

The survey also sought providers' views on the barriers to entry, likelihood to offer services in future, and reasons for customer take up or hesitancy (from the providers' perspective). We aggregated and anonymised responses to ensure the confidentiality of providers' responses, although not all respondents answered all questions.

Our survey results were mostly received in February 2025, before the Australian Government announced the Home Battery Subsidy Scheme (which may have subsequently influenced providers' views of future uptake).

Our section 95ZK notices collected data on the number of customers for each new energy service from 8 electricity retailers. However, we sought additional data on customer numbers from 10 more providers through our voluntary survey to increase our understanding of the level of take up for new energy services.

We consider that our consolidated customer numbers for:

- behavioural demand response programs and electric vehicle tariffs likely cover most customers, as these services are typically variations on existing retail electricity plans and our sample includes retailers who supply 97% of residential customers and 90% of small business customers in New South Wales, South Australia, Victoria and South East Queensland. Although some electricity retailers outside our combined sample may offer this service
- virtual power plants likely cover the majority of customers despite some operators thought to provide these services not responding to our survey
- financing and subscription arrangements for consumer energy resources are **not** likely to cover the majority of the relevant customers, as many non-energy providers offer this service and our dataset predominantly focuses on electricity retailers. Our data likely reflects most of the customers for this service *provided by retailers,* noting our coverage of the retail electricity market outlined above.

Response weighting

We weighted provider responses for questions on what providers believed to be the 3 most common reasons residential consumers take up new energy services and the 3 most common reasons they do not take up new energy services. These reasons could be selected from a set list and were weighted based on the provider's ranking of those responses. That is, the most common reason was given a value of 3, the second most common given a value of 2, and third most common given a value of 1. The proportion of providers presented in each chart was then calculated based on the sum of these values.

Battery electric vehicle figures

Our estimate for the number battery electric vehicles on the roads in New South Wales, South Australia, Victoria and Queensland as of December 2024 (in Section 3.2.1) is based on both registration and sales data sourced from the Australian Automobile Association's (AAA) EV index.[180] The AAA sources registration data from the Bureau of Infrastructure and Transport Research Economics and sales data from the Electric Vehicle Council.[181] [182] [183]

We combined registrations for battery electric vehicles as at January 2024 with sales estimates of battery electric vehicles for the calendar year 2024 in New South Wales, South Australia, Victoria and Queensland, to provide a final estimated figure for the end of 2024. This was to have a comparable data point for our data on the number of customers on electric vehicle tariffs as at 2 January 2025. Note, this method is distinct from information provided as part of the ACCC's Quarterly report on the Australian petroleum market from June 2025 which details battery electric vehicle sales figures from March 2022 onward nationally.[184]

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180 Australian Automobile Association, *Electric Vehicle Index*

181 Australian Automobile Association, *EV Index Data Sources*

182 Bureau of Infrastructure and Transport Research Economics, *Road Vehicles, Australia, January 2024*

183 Electric Vehicle Council, *EVC Vehicle Sales Report*

184 ACCC, *Quarterly report on the Australian petroleum market - March quarter 2025*

Appendix B: Electricity concessions, rebates and incentives

This appendix contains information on both:

- currently available electricity concessions and rebates provided by governments in New South Wales, South Australia, Victoria and Queensland, and the Australian Government's Energy Bill Relief Fund.
- Australian Government and state governments' incentives and subsidies for the following new energy services:
  - solar photovoltaic (PV)
  - electric vehicles
  - virtual power plants
  - behavioural demand response programs.

The information contained in this appendix was obtained from both publicly available information and through consultations with relevant state government bodies.

Introduction to concessions and rebates

Concession and rebates can be funded by the Australian Government and by state and territory governments. They reduce the amount a customer pays for electricity. Most concessions are typically paid and administered by state governments, and usually have targeted eligibility requirements (for example, a valid concession card). However, there are some broader, non-targeted rebates (for example, the expanded Energy Bill Relief Fund).

Energy Bill Relief Fund

In 2023–24, the Australian Government partnered with state and territory governments to roll out the Energy Bill Relief Fund scheme. It was administered by state and territory governments and each state had varying eligibility criteria and amounts paid. Generally, the Energy Bill Relief Fund for 2023–24 for households was based on whether they had a valid concession card. Eligible small businesses (typically based on usage thresholds) also received a rebate through the Fund.

The Australian Government expanded the Energy Bill Relief Fund in 2024–25 to all households with an active electricity account and extended the funding program for the first two quarters of 2025–26. Table B.1 outlines the Energy Bill Relief Fund programs.

Table B.1: Energy Bill Relief fund programs

Name and timing	Eligibility	Australian Government funding
EBRF 2023-24 1 July 2023 — 30 June 2024	Households who hold relevant state or Commonwealth concessions, or received Family Tax Benefit A or B benefits.	Australian Government contribution of $175 — $250, depending on state/territory.
	Eligible small businesses	$325
EBRF 2024-25 expansion	Households with an active electricity account with a retailer or embedded network customers	$300 for households (largely in quarterly payments depending on the jurisdiction)
1 July 2024 — 30 June 2025	Eligible small businesses	$325
EBRF 2025 extension	Households with an active electricity account with a retailer or embedded network customers	$150
1 July 2025 — 31 December 2025	Eligible small businesses	$150

Source: Department of Climate Change, Energy, the Environment and Water, Energy Bill Relief Fund, www.energy.gov.au/energy-bill-relief-fund, accessed 19 May 2025.

Other concessions and rebates

Other concessions are predominantly funded by state governments and are different in each region. They can vary in the following ways:

- the **amount paid**: while most concessions are a specific dollar amount, several concessions are percentage-based, such as Victoria's annual electricity concession (17.5% of electricity usage and service costs)
- **payment method**: concessions are usually a direct rebate on an electricity bill or occur through an electronic funds transfer. Electricity bills will not reflect concessions paid through a direct customer payment, which may affect the effective price a customer pays
- **eligibility**: all concessions have specific eligibility requirements such as requiring the appropriate concession card or meeting income thresholds.

Concessions and rebates for households, by region

A detailed breakdown of electricity concessions by region is presented in the tables below.

Notes:

- Tables exclude gas concessions, solar rebates, and concessions for energy-efficient homes.
- Unless otherwise stated, these concessions and rebates are applied on a customer's electricity bill per household.
- The tables include currently available state-specific concessions (as at 1 May 2025) and rebate amounts and eligibility criteria for the 2023–24 and 2024–25 Energy Bill Relief Fund.

New South Wales

Concession Category	Details
Low income Concession card holders	Low Income Household Rebate Retail customers – $350/financial year from 1 July 2024 (before GST) OR Embedded network customers – $385/financial year from 1 July 2024 (after GST, lump sum **paid via electronic funds transfer).** Eligibility: Residential electricity account holder who holds one of the following: ▪ Pensioner Concession Card issued by the Department of Veterans' Affairs (DVA) or Services Australia ▪ Health Care Card issued by Services Australia ▪ Low Income Health Care Card, or ▪ DVA Gold Card issued by DVA.
Medical-related heating and cooling	Medical Energy Rebate ▪ For retail customers – $350/financial year from 1 July 2024 (before GST). OR ▪ For embedded network customers – $385/financial year from 1 July 2024 (after GST, lump sum **paid via electronic funds transfer**). Eligibility: Residential electricity account holder who: ▪ holds one of the following: — Pensioner Concession Card issued by the Department of Veterans' Affairs (DVA) or Services Australia, or — Health Care Card issued by Services Australia — Low Income Health Care Card, or — DVA Gold Card issued by DVA AND ▪ the customer named on the bill, or a person living with the customer at the same address: — is not able to self-regulate body temperature — is assessed by a registered medical practitioner (GP or specialist) who has been treating that person or the other person for at least 3 months — meets at least one primary qualifying condition and at least one secondary qualifying condition.
Emergency Assistance	Energy Accounts Payments Assistance (EAPA) scheme ▪ For retail customers - up to $500 as a credit towards existing account balances per assistance application, with a maximum of two applications per year.

Concession Category	Details
	Residential customers that meet the following criteria may be eligible for assistance: ▪ The customer has an electricity or natural gas account for their primary residence in NSW, ▪ The customer has not paid their most recent bill, ▪ The account the customer needs assistance with is still open, and ▪ The customer is having a short-term financial crisis or emergency and finding it hard to pay their recent energy bill. Residential account holders are not eligible if: ▪ the bill is for a closed account ▪ the bill has already been paid in full, or less than $50 is owing on the bill ▪ the bill is for a business account.
Life support	Life Support Rebate (value of concession depends on the equipment type ▪ For retail customers – up to $1,638/financial year from 1 July 2024 (before GST) OR ▪ For embedded network customers – up to $1802/financial year from 1 July 2024 (after GST, lump sum **paid via electronic funds transfer**). Eligibility: Residential electricity account holder where: ▪ the person or someone living at the address needs to use approved life support equipment at the address, ▪ that person is verified by a registered medical practitioner as requiring the approved life support equipment.
Other	Family Energy Rebate ▪ For retail customers – up to $250/financial year from 1 July 2024; (before GST) ▪ Eligible customers who also receive the Low Income Household Rebate are eligible for a partial Family Energy Rebate of $30. OR ▪ For embedded network customers – full rate $275/financial year from 1 July 2024; part rate $33/financial year from 1 July 2024 (after GST, lump sum **paid via electronic funds transfer**). Eligibility: Residential electricity account holder who has: ▪ received the Commonwealth Government's Family Tax Benefit in the preceding financial year ▪ lodged their tax return for the last financial year with the Australian Tax Office ▪ finalised their entitlement to the Family Tax Benefit payments with Centrelink.

Concession Category	Details
	▪ Seniors Energy Rebate – $250/financial year from 1 July 2024 (after GST, lump sum **paid via electronic funds transfer**). Eligibility: Residential electricity account holder who: ▪ is a self-funded retiree, and ▪ holds a current Commonwealth Seniors Health Card issued by either Services Australia or the Department of Veterans' Affairs, and ▪ is applying for the rebate for their main place of residence.
Energy Bill Relief Fund Rebate (National) 2023–24	Up to $500 paid (jointly funded between the Australian Government and New South Wales Government) in the 2023-2024 financial year for eligible residential customers (in addition to existing energy rebates). Payments were on a quarterly or lump sum basis, depending on eligibility type. Eligibility: ▪ Primary electricity account holder, or another named account holder on the electricity account, and ▪ Receive one of the following energy rebates: — Low Income Household Rebate — Life Support Rebate — Medical Energy Rebate — Family Energy Rebate — Seniors Energy Rebate, or ▪ Hold an eligible concession card: — Low Income Health Care Card issued by Services Australia, or — Department of Veterans' Affairs (DVA) Gold Card, or ▪ Receive the Carer Allowance from Services Australia, or ▪ Are a NSW rebate swap program participant. — Note: A person can only receive 1 EBRF payment (whether paid as a lump sum or in instalments) regardless of whether they meet multiple eligibility criteria.
2024–25 Energy Bill Relief Fund Expansion	All households received $300 throughout 2024–25, paid in quarterly instalments from 1 July 2024. Eligible embedded network customers received the $300 rebate as a lump sum credit, paid direct to customer bank accounts.

South Australia

Concession Category	**Details**
Low income Concession card holders	▪ SA energy concession – Up to $274.85 for 2024-25 (indexed each year). — Homeowners, SA Housing Trust tenants, and private tenants receive the concession via their electricity bill. — Retirement village residents may receive the concession via their electricity bill (if they are the account holder) or via EFT. — Those who live in residential parks receive the payment via electronic funds transfer as part of a combined concessions payment. Eligibility: Customer who lives at the property and: ▪ has an energy account in their name and is listed first on their energy bill ▪ holds an eligible concession card or receives an eligible Centrelink payment — Pensioner Concession Card — DVA Gold Card o Totally and Permanently Incapacitated o Extreme Disablement Adjustment o War Widow o issued to a person with 80 or more overall impairment points under the *Military Rehabilitation and Compensation Act 2004* (Cth) — Low Income Health Care Card — Commonwealth Seniors Health Card. — JobSeeker Payment — Youth Allowance — Parenting Payment — Special Benefit — Community Development Program — Self-Employment Allowance — ABSTUDY — Austudy — Farm Household Allowance — War widow pension under legislation of the United Kingdom or New Zealand, or ▪ Is an asylum seeker (means a relevant asylum seeker or person eligible for a state government support package as defined in the Cost of Living Concessions Regulation 2020) PLUS For Origin Energy customers receiving the SA energy concession: ▪ SA Concessions Energy Discount Offer – 17% off electricity usage and supply charge, from 1 June 2023 (previously 21%).

Concession Category	**Details**
Medical-related heating and cooling	Medical heating and cooling concession $274.85 for 2024–25 (indexed annually) (**paid via electronic funds transfer).** Eligibility: Customer who lives at the property on the application form and: ▪ have, or is the parent or legal guardian of, a child who has a qualifying medical condition requiring cooling or heating to prevent severe worsening of their condition ▪ provide certification from their medical specialist or general practitioner that the medical condition is severely worsened by hot or cold weather ▪ use an air conditioning unit at that address to meet their medical heating and cooling requirements ▪ be financially responsible for the full or part payment of the energy bill, and ▪ hold an eligible concession card or receive an eligible Centrelink payment: — Pensioner Concession Card — DVA Gold Card o Totally and Permanently Incapacitated o Extreme Disablement Adjustment o War Widow o issued to a person with 80 or more overall impairment points under the *Military Rehabilitation and Compensation Act 2004* (Cth) — Low Income Health Care Card — Commonwealth Seniors Health Card — JobSeeker Payment — Youth Allowance — Parenting Payment — Special Benefit — Community Development Program — Self-Employment Allowance — ABSTUDY — Austudy — Farm Household Allowance — War widow pension under legislation of the United Kingdom or New Zealand.
Emergency Assistance	Emergency Electricity Payment Scheme – up to $800 once per 2 years. Eligibility: ▪ If customer is disconnected or at risk of disconnection. ▪ Be financially responsible for payment of electricity bill ▪ Be unable to pay their electricity debt. Note: ▪ The customer is **not** required to be a concession holder.

Concession Category	**Details**
	▪ Applications must be facilitated by financial counsellors or financial capability workers.
Life support	Home dialysis electricity concession – $274.85/year for 2024–25 (indexed annually) (**paid via electronic funds transfer**). Eligibility: ▪ Any person undergoing dialysis treatment at home, and ▪ the concession has been approved by a SA Health Practitioner. ▪ Home oxygen therapy rebate – 50% rebate on the electricity used by oxygen concentrator (**paid via cheque or electronic funds transfer**). ▪ Pensioners and health care card holders who receive State-funded oxygen therapy. Entitled veterans can apply for a rebate through the department of Veterans' Affairs.
Cost of Living – energy costs	Cost of living concession – $243.90/year for homeowners, $122/year for tenants and Commonwealth Senior Health Card holders for 2023–24. The 2024–25 concession amount was $255.60 per household (indexed each year). ▪ It is designed to assist people on low or fixed incomes with general living expenses such as energy, medical and council rates. ▪ It is a general payment paid by electronic funds transfer. Eligibility: Customer who lives at the property and: ▪ holds an eligible card — Pensioner Concession Card — DVA Gold Card o Totally and Permanently Incapacitated o Extreme Disablement Adjustment o War Widow o issued to a person with 80 or more overall impairment points under the *Military Rehabilitation and Compensation Act 2004* (Cth) — Low Income Health Care Card — Commonwealth Seniors Health Card OR ▪ receives an eligible Centrelink payment — JobSeeker Payment — Youth Allowance — Parenting Payment — Special Benefit — Community Development Program — Self-Employment Allowance — ABSTUDY — Austudy — Farm Household Allowance

Concession Category	**Details**
	— War widow pension under legislatiosn of the United Kingdom or New Zealand OR ▪ meets the low-income provision ▪ is an asylum seeker (means a relevant asylum seeker or person eligible for a state government support package as defined in the Cost of Living Concessions Regulations 2020).
Other	Residential park resident concessions – residents who own their own dwelling and pay for water, sewerage and energy $687.05 and tenants who pay for water and energy $437.05/year for 2024–25 (indexed annually) (**paid quarterly via electronic funds transfer**). Note: This concession combines water and energy concessions (and sewerage for homeowners). Eligibility: Customer occupies the property as their principal place of residence and holds an eligible concession card or receives an eligible Centrelink payment: ▪ Pensioner Concession Card ▪ DVA Gold Card — Totally and Permanently Incapacitated — Extreme Disablement Adjustment — War Widow — issued to a person with 80 or more overall impairment points under the *Military Rehabilitation and Compensation Act 2004* (Cth) ▪ Health Care Card ▪ Low Income Health Care Card ▪ Commonwealth Seniors Health Card. ▪ JobSeeker Payment ▪ Youth Allowance ▪ Parenting Payment ▪ Special Benefit ▪ Community Development Program ▪ Self-Employment Allowance ▪ ABSTUDY ▪ Austudy ▪ Farm household allowance ▪ War widow pension under legislation of the United Kingdom or New Zealand.
Energy Bill Relief Fund Rebate (National) 2023–24	Up to $500 for eligible households (paid quarterly as a $125 credit on the bill). This is in addition to the SA energy concession. For customers on embedded networks, this amount was a lump sum payment. Eligibility:

Concession Category	**Details**
	▪ Located in South Australia. ▪ Primary electricity account holder, or another named account holder on the electricity account. ▪ Holds an eligible concession card or government payment: — ABSTUDY — Austudy — Commonwealth Seniors Health Card — Community Development Program — Farm Household Allowance — Health Care Card — Asylum seekers — JobSeeker Payment — Low Income Health Care Card — New Enterprise Incentive Scheme — Parenting Payment — Pensioner Concession Card — Special Benefit — Department of Veterans' Affairs Gold Cards — War widow pension under legislation of the United Kingdom or New Zealand — Widow Allowance — Youth Allowance — Carer Allowance — Family Tax Benefit A or B. ▪ Must be with a retailer on set census dates.
2024–25 Energy Bill Relief Fund Expansion	All households received $300 throughout 2024–25, paid in quarterly instalments from 1 July 2024. Eligible embedded network customers with an active account on 31 July 2024 received the $300 rebate as a lump sum credit.

Queensland

Concession Category	Details
Low income	Electricity Rebate – $372.20 per year.
Concession card holders	Eligibility: Electricity account holders who have any of the below: ▪ Queensland Seniors Card ▪ Services Australia or Department of Veterans' Affairs Pensioner Concession Card ▪ Services Australia Health Care Card (including holders of a Low Income Health Care Card and Ex-Carer Allowance (Child) Health Care Card) ▪ Department of Veterans' Affairs Veteran Gold Card (and receive the War Widow/er Pension or special rate TPI Pension) ▪ Asylum seeker status (ImmiCard).
Medical-related heating and cooling	Medical Cooling and Heating Electricity Concession Scheme – $502.98 (**pro rata quarterly payments via electronic funds transfer**). Eligibility: Queensland resident who: ▪ has a qualifying medical condition and need cooling or heating to stop symptoms becoming significantly worse. Qualifying medical conditions include: multiple sclerosis, autonomic system dysfunction, loss of skin integrity or sweating capacity, severe compromise of functioning such as mobility at extremes of environmental temperature, hypersensitivity to extremes of environmental temperature leading to increased pain or other discomfort or an increased risk of complications. ▪ lives at their principal place of residence, which has an air-conditioning or heating unit. ▪ if applicant/legal guardian of a minor with a qualifying medical condition, must: — hold a current Services Australia or Department of Veterans' Affairs Pensioner Concession Card or a current Services Australia Health Care Card AND — be financially responsible for paying the electricity bill.
Emergency Assistance	Home Energy Emergency Assistance Scheme – $720 once every 2 years. Eligibility: A customer must: ▪ hold a current concession card OR have an income equal to or less than the Australian Government's maximum income rate for part-age pensioners OR be part of energy provider's hardship program or payment plan AND ▪ have experienced a substantial decrease in their household income OR high unexpected expenses on essential items OR have experienced family or domestic violence in the past 12 months.

Life support	Electricity life support concession – up to $686.01 for each kidney dialysis machine or $1024.38 for each oxygen concentrator (**paid quarterly via electronic funds transfer**). Eligibility: A customer must ▪ receive a home-based kidney dialysis machine free of charge through a Queensland Health hospital OR ▪ receive an oxygen concentrator free of charge through the Medical Aids Subsidy Scheme (**MASS**) AND ▪ have been medically assessed in accordance with the eligibility criteria determined by MASS AND ▪ hold one of the following concession cards: — Pensioner Concession Card — Health Care Card — Health Care Interim Voucher — Child Disability Allowance — Queensland Seniors Card. Note: Commencing 1 July 2023 those who were assessed through Medical Aids Subsidy Scheme and transition to Home Care Packages will still be able to receive the Electricity Life Support Concession payments. The 2023 Budget announcement has expanded the eligibility criteria to continue payments to those in HCP assessed through MASS.
2023–24 Cost of Living Rebate/ Energy Bill Relief Fund Rebate	▪ $700 for eligible households who receive the $372 Queensland Electricity Rebate (Total relief $1072), paid in quarterly instalments from 1 July 2023 ▪ $550 for all other eligible Queensland households with an active electricity account (automatically applied), paid in quarterly instalments from 1 July 2023 If a customer became eligible for the bill relief part way through 2023–24, they were eligible to receive all future quarterly rebate payments for the remainder of the financial year. Eligible embedded network customers received the $700 or $550 rebate as a lump sum credit. Eligibility for the Queensland Electricity Rebate Scheme: ▪ Queensland Seniors Card ▪ Pensioner Concession Card ▪ Health Care Card (including Low Income Health Care Card and Ex-Carer Allowance (Child) Health Care Card) ▪ Department of Veterans' Affairs (DVA) Gold Cards marked with any of the following: 'War Widow', 'War Widower Pension' or 'Totally and Permanently Incapacitated' (TPI) ▪ Immicard.
2024–25 Energy Bill	Households received $300 throughout 2024–25, paid in quarterly instalments from 1 July 2024. Eligible embedded network customers received the $300 rebate as a lump sum credit.

Relief Fund Expansion	
2024–25 Cost of Living Rebate	Queensland households received $1000 off their electricity bills in 2024-25. The rebate was automatically applied to eligible customers' bills from 1 July 2024 and paid as a lump sum credit. To be eligible for the rebate, residential customers must: ▪ have an electricity account with their electricity retailer or embedded network operator on 1 July 2024; and ▪ be separately metered and charged for their own electricity consumption.

Victoria

Concession Category	Details
Eligible Concession card holders	Annual electricity concession – 17.5% of electricity usage and service costs. The concession is calculated after retailer discounts and solar credits have been deducted. It does not apply to the first $171.60 of the annual bill. Eligibility: An electricity account holder who has one of the following eligible cards: ▪ Pensioner Concession Card ▪ Health Care Card ▪ Veterans' Affairs Gold Card. Excess Energy Concession - Households with very high electricity bills (over $3,895.13 in the year, starting 1 December 2024) need to apply for the Excess Energy Concession to continue to receive a concession on their bill. Similar to the Annual electricity concession, it is a rebate of 17.5% off electricity bills above $3,895.13 (for the annual period starting 1 December 2024). The concession is calculated after retailer discounts and solar credits have been deducted.
Medical-related heating and cooling	Medical cooling concession – It is an additional 17.5% off electricity bills between 1 November and 30 April for households where a household member has a medical condition that affects the body's ability to regulate temperature. Eligibility: An electricity account holder who holds a Pensioner Concession Card, Health Care Card, Veterans' Affairs Gold Card AND: ▪ has a medical condition that affects their body's ability to self-regulate temperature, or ▪ has a household member with such a medical condition.
Hardship grants	Utility Relief Grant Scheme – helps eligible low-income households who are unable to pay an overdue utility bill and at risk of disconnection due to a temporary financial crisis. The grant is based on the amount owed at the time of application. It is also based on the reasons provided for applying in the application form. Households can receive a maximum of $650 on each utility type in a two-year period (or $1,300 for households with a single source of energy — for example, electricity only). Eligibility:

	▪ An account holder who holds a Pensioner Concession Card, Health Care Card, Veterans' Affairs Gold Card. ▪ Non-concession cardholders are also eligible, provided they meet low-income and hardship requirements. Criteria for grant: ▪ Applicant must show they have no way of paying the account without assistance and are at risk of disconnections AND meet one of the following criteria: — Applicant or household member has experienced family violence — Applicant had a recent decrease in income, for example, lost their job — Applicant had high unexpected costs for essential items — The cost of shelter is more than 30% of applicant's household income.
Life support	Life support concession – Discount on electricity bills (equal to the cost of using 1,880kWh each year) calculated using the general domestic tariff of the retailer where a member of the household uses an eligible life support machine. Eligibility: An electricity account holder who holds a Pensioner Concession Card, Health Care Card, Veterans' Affairs Gold Card AND ▪ uses an eligible life support machine, or ▪ has a household member who uses an eligible life support machine.
Other	Non–mains energy concession – paid annually based on the amount paid for each energy type in that year. Rebates for the 2024 calendar year are below: ▪ $56 for spending from $100 to $326.99 ▪ $172 for spending from $327 to $981.99 ▪ $286 for spending from $982 to $1,633.99 ▪ $408 for spending from $1634 to $2,331.99 ▪ $522 for spending from $2332 to $2,983.99 ▪ $634 for spending $2,9984 and above. Eligibility: An electricity account holder who has one of the following eligible cards: Pensioner Concession Card, Health Care Card, or Veterans' Affairs Gold Card.
Energy Bill Relief Fund Rebate (National) 2023–24	$250 for eligible households, in addition to the Vic electricity concession Eligibility: ▪ Primary electricity account holder, or another named account holder on the electricity account. ▪ Hold an eligible concession card or government payment: — Health Care Card — Low Income Health Care Card — Pensioner Concession Card. — Department of Veterans' Affairs Gold Cards — Carer Allowance

	— Commonwealth Seniors Health Card — Family Tax Benefit.
2024-25 Energy Bill Relief Fund Expansion	Households received $300 throughout 2024–25, paid in quarterly instalments from 1 July 2024. Eligible embedded network customers received the $300 rebate as a lump sum credit.

Small businesses rebates, by region

In the tables below we provide details on eligibility and payments of the Energy Bill Relief Fund, and other rebates which eligible small businesses received in 2023–24 and 2024–25. The table excludes all other small business concessions. However, further information for small businesses can be found on state government websites.[185]

New South Wales

Year	Details
2023–24	**Energy Bill Relief Fund 2023–24** Up to $650 paid (jointly funded between the Australian Government and New South Wales Government) in the 2023–2024 financial year for eligible small businesses. Embedded network customers were paid as one-off lump sum, other small businesses were paid as either a quarterly instalment or lump sum amount. Eligibility: The small business must: ▪ be based in New South Wales ▪ have an active Australian Business Number (ABN) ▪ be named on the electricity bill or account ▪ be on a separately metered business tariff with its electricity retailer. ▪ have an annual electricity consumption below the threshold of 100 MWh Small businesses are not eligible if: ▪ they are run using electricity from your home.
2024–25	**Energy Bill Relief Fund Expansion** Small business customers received a $325 rebate throughout 2024–25, paid in quarterly instalments from 1 July 2024. Eligible embedded network customers received the rebate as a lump sum credit. Eligibility requirements are the same as those listed above for the 2023–24 payment.

185 See www.energy.gov.au/energy-bill-relief-fund.

South Australia

Year	Details
2023–24	**Energy Bill Relief Fund 2023–24** Up to $650 for eligible small businesses. New businesses established during the 2023–24 financial year that meet the criteria will be eligible for the energy bill relief. They were backdated for any missing relief for which they were eligible. For general small businesses, this was automatically applied to electricity accounts each quarter (or issued as a lump sum payment to those in an embedded network who were eligible on 31 July 2023) Eligibility: ▪ Small business is based in South Australia ▪ Has an annual electricity consumption below the threshold of 160 MWh ▪ Is on a separately metered business tariff with its electricity retailer. Small businesses are not eligible if: ▪ they are run using electricity from a home with a residential electricity tariff.
2024–25	**Energy Bill Relief Fund Expansion** Small business customers received a $325 rebate throughout 2024–25, paid in quarterly instalments from 1 July 2024. Eligibility requirements were the same as those listed above for 2023–24 with a new eligibility date for properties in an embedded network being 31 July 2024.

Queensland

Year	Details
2023–24	**Cost of Living Rebate/ Energy Bill Relief Fund Rebate** Up to $650 for eligible small businesses. For most small businesses, this was automatically applied in quarterly instalments of $162.50 throughout 2023–24, commencing from 1 July 2023. If a business became eligible for the bill relief part way through 2023-24, it was eligible to receive all future quarterly rebate payments for the remainder of the financial year. Eligible small businesses on embedded networks also received the rebate, which was credited as a lump sum payment. Eligibility: ▪ Small business is based in Queensland ▪ Has an annual electricity consumption below the threshold of 100 MWh ▪ Is on a separately metered business tariff with its electricity retailer. Small businesses are not eligible if: ▪ they are run using electricity from your home.
2024–25	**Energy Bill Relief Fund Expansion Rebate** Eligible small business customers received a $325 rebate throughout 2024–25, paid in quarterly instalments from 1 July 2024. **Queensland Government Small business rebate**

	Eligible Queensland small businesses received a $325 rebate automatically credited to bills from 1 July 2024 and paid as a lump sum credit. Eligibility criteria for both the small business rebate and Energy Bill Relief Fund Expansion Rebate in 2024–25 were the same as those listed above for the 2023–24 rebates.

Victoria

Year	Details
2023–24	**Energy Bill Relief Fund 2023–24** Up to $325 for eligible small businesses from 7 August 2023. For general small businesses, electricity providers automatically applied the bill relief to electricity accounts from 1 July 2023. Eligibility: ▪ Small business is based in Victoria ▪ Has an active ABN as listed on the Australian Business Register ▪ Has an annual electricity consumption below the threshold of 40 MWh ▪ Is on a separately metered business tariff with its electricity retailer. Small businesses are not eligible if: ▪ they are run using electricity from your home.
2024–25	**Energy Bill Relief Fund Expansion** Small business customers received a $325 lump sum rebate. Rebates commenced in August 2024. Eligibility requirements were the same as those listed above for 2023–24.

Federal incentives for new energy services

Small-scale Renewable Energy Scheme (Solar and Battery)[186]

Overview

The Small-scale Renewable Energy Scheme (SRES) is an Australian Government initiative that encourages investment in small-scale renewable energy. It provides incentives to households and businesses to install small-scale renewable energy systems like rooftop solar, solar water heaters and air sourced heat pumps.

The scheme is administered by the Clean Energy Regulator. The Department of Climate Change, Energy, the Environment and Water oversees the Renewable Energy Target (RET) and amendments to the *Renewable Energy (Electricity) Regulations 2001*. Read the RET policy intent on the department's website.

Eligibility

Customers

The scheme is designed for homeowners and businesses who want to reduce their electricity needs by using renewable energy systems. It's aimed at people who want to use their own system's generated energy or share generated energy from the grid via batteries.

To participate, individuals and small businesses must choose and install an eligible renewable energy system.

Systems

There are 6 types of small-scale renewable energy systems eligible under the scheme:[187]

- solar photovoltaic (PV)
- wind turbines
- hydro systems
- solar water heaters
- air source heat pumps
- battery storage systems.[188]

Classification of a small-scale system is based on the system's capacity or how much energy the system displaces. Systems with higher capacity may be classified as power stations. Power stations can be accredited under the Large-scale Renewable Energy Target and may be eligible for large-scale generation certificates.

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186 Clean Energy Regulator, *Small scale renewable energy scheme*, Clean Energy Regulator website, Australian Government, accessed 5 June 2025.

187 Clean Energy Regulator, *Small scale renewable energy scheme*, Clean Energy Regulator website, Australian Government, accessed 5 June 2025.

188 Battery storage systems are eligible under the scheme from 1 July 2025. Find out how to be ready. If a battery storage system is integrated in a solar PV, wind or hydro system, we collect information about it from retailers, installers and agents.

Small-scale technology certificates

Under the scheme, eligible systems can earn small-scale technology certificates (STCs) based on how much electricity they generate or displace. Each megawatt hour of renewable energy generated by the system is awarded one STC.

System owners have the right to create and sell STCs. Most system owners assign the right to sell STCs to an agent in exchange for a discount or delayed cash payment. STCs are then issued to the registered agent based on how much power the system is expected to generate until the scheme ends in 2030.

To be eligible for STCs, newly installed small-scale systems must meet certain requirements.

A solar PV, wind or hydro system must:

- have STCs created within 12 months of the installation
- have its panels and inverters listed on the Clean Energy Council (CEC) list of approved components
- meet Australian and New Zealand standards
- be designed and installed by a Solar Accreditation Australia (SAA) accredited designer and installer
- meet SAA design and install guidelines
- comply with all local, state, territory and federal requirements, including electrical safety
- be classified as small-scale.

Solar hot water systems and air source heat pumps must:

- be listed on the register of solar water heaters
- have STCs created within 12 months of the installation.

Find out more about how to install a solar water heater.

Expanding, upgrading or replacing existing systems

You should consider your options and compare the benefits and costs of installing a new or expanded system. This includes:

- electrical wiring upgrades
- compliance with current standards
- operating efficiency
- hidden costs of changes or upgrades
- impacts on feed-in tariffs.

If you are expanding a system, you may need to replace or upgrade components of your system to participate in the scheme. It's important to note that systems with replaced panels that previously received STCs aren't eligible for additional STCs.

If you expand your system before your initial claim for STCs is approved, you risk not being able to claim any STCs for the system. For example, if your initial STC claim for a small-scale system fails, you may not be able to re-create STCs for an expanded system above 100 kW.

System selection

- The system you install will depend on your personal circumstances, like:
- electricity usage
- location, including the weather and sun exposure
- any other systems you have installed
- budget.

Make sure you research which system best suits your needs and get multiple quotes to compare the systems.

Cheaper Home Batteries Program (Battery)[189]

Overview

The $2.3 billion Cheaper Home Batteries Program will support Australian households and small businesses with a discount on the cost of installing small-scale battery systems. The program aims to:

- help households to make the most of cheap and clean solar power by storing it for when it is needed
- reduce costs for everyone - not just those who install a battery - because it means less expensive gas power generation, poles and wires.

From **1 July 2025**, households and small businesses may be eligible for around a 30% discount on the upfront cost of installing small-scale battery systems. The discount will be based on the solar battery's usable capacity and will gradually decrease until 2030.

The Australian Government will fully fund the discount for solar batteries by purchasing STCs. This means no costs will be passed on to householders through energy retailers.

The discount will generally be provided via solar and battery retailers and installers. The Cheaper Home Batteries Program will be delivered through the SRES, administered by the Clean Energy Regulator.

Eligibility[190]

Eligibility is still subject to amending the *Renewable Energy (Electricity) Regulations 2001* (due to go live 1 July 2025) and requirements may change.

Participants

- Homeowners
- Business owners
- Other premises owners (including community facilities)
- Solar battery retailers
- Solar battery installers and designers

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189 Department of Climate Change, Energy, the Environment and Water (DCCEEW), *Cheaper Home Batteries*, DCCEEW website, Australian Government, n.d., accessed 5 July 2025.

190 Clean Energy Regulator (CER), *Batteries*, CER website, Australian Government, n.d., accessed 5 July 2025.

- Registered agents.

Eligible battery systems

- Minimum and maximum battery size
  - An eligible battery storage system must be in the range of 5 kWh to 100 kWh in nominal capacity. The nominal capacity is the maximum amount of energy a battery can store at full charge.
  - The discount will be provided for up to 50 kWh of a battery system's usable capacity.
  - The program is intended to support residential and small-scale battery systems. Electric vehicles are not eligible battery systems for this program.
- Battery system composition
  - An eligible battery system could include:
    - a single battery unit
    - a system of modular battery cells connected to serve as one battery unit.
  - Additional capacity added to an existing battery system is eligible if:
    - the battery system has not previously received a discount under the program; and
    - the additional capacity is at least 5 kWh and the total upgraded capacity of the battery does not exceed 100 kWh in nominal capacity.
  - Stacking smaller batteries that have less than 5kWH nominal capacity can be eligible as long as they achieve the minimum 5kWH threshold and do not exceed 100kWh.
  - Additional capacity that is later added to an existing battery that received a discount under the program would not be eligible.
    - Support will be provided for one battery system at a single premises and only for the first time a battery system is installed, added to, or replaced.
- Accreditation of battery systems
  - A battery system and the inverter must be listed on the Clean Energy Council (CEC) approved product list.
- VPP capability
  - A battery in an on-grid system needs to be capable of being coordinated through a virtual power plant (VPP), but does not need to be connected to a VPP.
    - To be VPP capable, a battery system must be able to connect to the electricity grid and respond to signals from third party VPP operators (such as a DNSP). This will require an ongoing internet connection.
    - Consumers are not required to participate in a VPP.
  - Off-grid battery systems would not be required to be capable of connecting to a VPP.

Installing an eligible battery system

- Accreditation/supervision of the installation
  - Installation should be undertaken by/with supervision from an accredited person/s in battery design/installation under Solar Accreditation Australia (SAA).
- Installation date

- A battery system may be eligible for support if it is installed on or after 1 July 2025.
    - A battery system is considered ‘installed’ when a certificate of electrical compliance or equivalent is signed which confirms that the system complies with relevant state and territory electrical safety regulations.
- Installing a battery system with solar PV
    - A battery system must be installed with an existing or new solar PV system at a premises.
- Battery system installation standard
    - Installation of a battery system must comply with the industry developed Best Practice Guide: Battery Storage Equipment.

How it works

The Program will be delivered under an expansion of the current functionality of the SRES, and the discount will likewise be provided through the creation and trade of STCs.

However, unique to the Program, the Australian Government will purchase STCs from the STC Clearing House, thereby absorbing the cost of the discount. This will ensure there are no compliance cost flow-on impacts to consumers, and that liable entities will not have to purchase the STCs associated with battery installations. While the Australian Government will be the purchaser of STCs under the Program through Clearing House, STC sellers can also opt to sell STCs in the open market.

Make sure you research which system best suits your needs and get multiple quotes to compare the systems.

The solar battery system you choose will depend on your personal circumstances, including:

- electricity usage
- if you will be installing a new PV system with your solar battery or if you have an existing solar PV system installed
- budget.

Discount for eligible battery systems

- STC calculation
    - The number of STCs that a battery system is eligible for will be in reference to the kilowatt-hours of usable capacity of the battery system. The usable capacity of the battery is the amount of energy that can be discharged from a battery and represents the power that a home or small business can draw from the battery.
    - STCs will only be provided for the first 50 kWh of the usable capacity of a battery system.
        - The discount rate in 2025 would be represented as 9.3 STCs per kWh of usable capacity, equivalent to around $372 per kWh.
    - The number of STCs will decline for battery systems installed in 2026 and later years until the scheme ends in 2030.
    - The calculation of STCs will be based on the number of STCs per kWh of installed usable capacity of the battery and the year of installation, as outlined below.

Year	2025	2026	2027	2028	2029	2030
Estimated value per kWh	$372	$336	$296	$260	$224	$188
STC factor	9.3	8.4	7.4	6.5	5.6	4.7

  - The estimated value per kWh is approximate and based on $40 per STC for a battery installed in the year. This could vary over time in line with reviews of whether the discount remains appropriate.
- Number of battery systems
  - Additional rebates or incentives from states and territories may be available for batteries. Eligibility or other support will depend on criteria that applies in those schemes.

The Clean Energy Regulator does not set the STC price used by agents. When entering an arrangement, you should do your due diligence and make sure clear contracts are in place to ensure payment is made promptly after STCs are created.

If your solar battery system will be installed before 1 July, make sure it is tested as capable of storing or discharging energy on or after 1 July 2025, as shown on the state/territory certificate of electrical compliance. If your solar battery is tested and certified before 1 July 2025, it won't be eligible for STCs.

Household Energy Upgrades Fund (Range of energy-efficient products)[191]

Overview

The $1 billion Household Energy Upgrades Fund (HEUF) will provide discounted consumer finance products to help households upgrade the energy performance of their homes.

The Clean Energy Finance Corporation (CEFC) will work with lenders to provide discounted finance products to help households upgrade their homes with battery-ready solar PV, modern appliances and other improvements.

The HEUF will help more than 110,000 households lower their energy bills, ensuring homes are warmer in winter and cooler in summer. It is also helping to fast-track the retrofit of greener, more sustainable homes Australia-wide.

Eligibility

Customers[192]

- The Household Energy Upgrades Fund is open to households **with or without** a mortgage, rental property owners, and strata properties.
- Upgrades are available for existing homes or knock-down/rebuild.
- High value properties are excluded (speak to your lender for further details).

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[191] Department of Climate Change, Energy, the Environment and Water (DCCEEW), *Household Energy Upgrades Fund*, energy.gov website, Australian Government, n.d., accessed 5 July 2025.

[192] Department of Climate Change, Energy, the Environment and Water (DCCEEW), *Household Energy Upgrades Fund*, energy.gov website, Australian Government, n.d., accessed 5 July 2025.

- Products, installations and technologies must meet eligibility and evidence requirements.

Funding

Participating banks and finance institutions can be found on the Clean Energy Finance Corporation (CEFC) website. Speak to a participating lender for further advice on eligibility requirements.

How it works

Finance may be used for:

- renovations
- energy upgrades of one or multiple technologies at the same time
- knock-down rebuild properties and energy-efficient appliances.

Household Energy Upgrades Fund finance products to help improve the energy performance of your home may include:

- green home loans
- green personal loans
- other low-cost finance products.

State incentives for new energy services

New South Wales

Smart Distributed Batteries Project (Battery)[193]

The Smart Distributed Batteries Project is no longer available.[194]

Peak Demand Reduction Scheme (Battery)[195]

Latest changes

From Tuesday 1 July 2025, NSW households and businesses will no longer be able to access this incentive. Instead, households and small businesses in NSW will benefit from a battery installation discount under the Australian Government's new CHBP starting 1 July 2025. The CHBP incentive is almost double the current NSW Government's PDRS battery incentive.

193 NSW Climate and Energy Action, *Install a Battery*, NSW Climate Energy and Action website, NSW Government, n.d., accessed 5 June 2025.

194 Solar Hub, *Smart Distributed Batteries Project*, Solar Hub website, n.d., accessed 5 June 2025.

195 NSW Climate and Energy Action, *Install a Battery*, NSW Climate Energy and Action website, NSW Government, n.d., accessed 5 June 2025.

Peak Demand Reduction Scheme (Virtual power plant)[196]

Overview

The Peak Demand Reduction Scheme (PDRS) aims to reduce peak electricity demand in NSW. It started in 2022 and will end in 2050.

To reduce demand on the grid, the PDRS is providing financial incentives to households and businesses to reduce energy consumption during periods of high demand.

Customers with a battery installed can receive incentives by signing their battery up to a demand response contract, also known as a Virtual Power Plant (VPP). A VPP allows you to sell some of the excess stored energy in your battery when other people on the grid need it most.

Participating in a VPP can help you:

- provide a revenue stream for your battery, like the feed-in tariff available for solar
- speed up paying back the cost of your solar and battery system
- support the grid during peaks in demand and improve the energy security of NSW.

This incentive will help to reduce electricity demand during peak periods, and the risk of power outages in NSW.

Eligibility

Customers must have an existing battery installed through an accredited supplier.

To be eligible for this scheme, your battery must have a minimum of 6 years remaining on the warranty and meet certain performance and warranty requirements.

An accredited supplier will be able to assess these requirements and confirm your eligibility.

How it works

The PDRS incentivises the reduction of peak demand during summer afternoons and evenings when demand for electricity is highest in NSW.

The PDRS sets a peak demand reduction target for electricity retailers and large electricity users. To meet their targets based on their contribution to peak demand, energy retailers and large energy users are required to create or buy Peak Reduction Certificates (PRCs).

PRCs are created for eligible activities that reduce electricity demand during peak periods. These activities include installing select energy-efficient appliances, such as battery energy storage systems, pool pumps and air conditioners. The **PDRS Rule** details how certificates are created.

Unlike a rebate, the incentive for joining a VPP is provided to an accredited supplier. The accredited supplier, also known as an Accredited Certificate Provider (ACP), will pass on the incentive to you. The accredited supplier is the business you choose to work with to connect your battery to a VPP.

The incentive is proportional to the usable capacity of the battery in kilowatt-hours (kWh). Larger batteries will receive a larger incentive.

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[196] NSW Climate and Energy Action, *Connect your battery to a VPP*, NSW Climate Energy and Action website, NSW Government, n.d., accessed 5 June 2025.

Latest changes

From 1 July 2025, the NSW Government incentive for connecting your battery to a Virtual Power Plant (VPP) will nearly double. This VPP incentive can be combined with the Australian Government's Cheaper Home Batteries Program (CHBP) battery incentive. A typical 13.5kWh battery can attract as much as $700 on top of the ongoing financial benefit of participating in the VPP.

For more information about the incentives read the **FAQs**.

Energy Savings Scheme (Range of energy-efficient products)[197]

Overview

The Energy Savings Scheme (ESS) aims to deliver cost-effective energy savings for NSW households and businesses by providing financial incentives to replace old appliances with new energy-efficient equipment and appliances.

Under the scheme, the NSW Government is offering incentives to discount the cost of replacing or installing new energy-efficient equipment in your home, such as upgrading your **hot water systems** or **air conditioning systems**.

These incentives will reduce the upfront installation costs of upgrading to new energy-efficient appliances. Having new energy-efficient appliances will also help you unlock long-term lower energy bills, saving you even more money.

These incentives under the **Energy Savings Scheme** and **Peak Demand Reduction Scheme** are legislated until 2050. However, over time access to incentives may change as new ones are added or old ones are removed.[198]

Eligibility[199]

All households and small businesses in NSW may be eligible for these incentives. Your ability to access the incentives may depend on whether your location is serviced by installers who offer the incentives and on the potential energy savings of your new appliance or product. For example, if you already have an energy efficient hot water system you may not be eligible.

Only installers partnered with an Accredited Certificate Provider (ACP) can provide these discounts to you.

How it works[200]

Unlike a rebate which is paid to you, these incentives are an upfront discount that installers offering these incentives will include in their quote. For example, if you replace an existing electric water heater with a heat pump water heater a typical incentive could be between $405 and $675 to help reduce the installation cost.

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197 NSW Climate and Energy Action, *Energy Savings Scheme*, NSW Climate Energy and Action website, NSW Government, n.d., accessed 5 June 2025.

198 NSW Climate and Energy Action, *Frequently asked questions – Household energy savings upgrades*, NSW Climate Energy and Action website, NSW Government, n.d., accessed 5 June 2025.

199 NSW Climate and Energy Action, *Frequently asked questions – Household energy savings upgrades*, NSW Climate Energy and Action website, NSW Government, n.d., accessed 5 June 2025.

200 NSW Climate and Energy Action, *Household energy saving upgrades*, NSW Climate Energy and Action website, NSW Government, n.d., accessed 5 June 2025.

The amount of money you save upfront will depend on the appliance model or equipment you choose.

It's important to get quotes from multiple installers so you:

- find out what discount you can get because each installer will provide different prices
- get the best deal for your circumstances because every home has different needs.

Electric Vehicle Strategy (EVs)[201]

Overview

To help reduce the upfront cost of buying an EV, the NSW Government will remove stamp duty on EVs, offer EV rebates, provide fleet incentives and use the NSW Government fleet to bring a range of cheaper EV models into the State.

The NSW Government will provide rebates of $3,000 on the purchase of the first 25,000 EVs sold in New South Wales from 1 September 2021. Rebates will only be available for cars retailing under $68,750, making sure the rebate is going to the cars more people can afford. Fleets will not be eligible.

Stamp duty will be removed for EVs under $78,000 purchased from 1 September 2021 and all EVs including plug-in hybrids from 1 July 2027 or when EVs make up at least 30% of new car sales (whichever is earlier), when the road user charge is introduced.

Eligibility

The rebate for eligible EV purchases ended on 31 December 2023.[202]

Individuals and businesses that purchased or placed a deposit on an eligible EV prior to 1 January 2024 will be eligible to receive the rebate, regardless of whether the vehicle has been delivered by that date. This ensures that purchasers who were unable to register their vehicle by 31 December 2023 are not disadvantaged by delays in delivery.

Applications lodged from 1 January 2024 will require proof of purchase (i.e. a contract to purchase) and deposit payment (where applicable), to indicate that the purchase or deposit payment was made prior to 1 January 2024.

If you purchased or made a deposit on an eligible electric vehicle with a dutiable value of less than $68,750 before 1 January 2024, you can claim a $3,000 cash rebate.

Queensland

Energy Roadmap for Queensland

Overview

Queensland will develop a new energy roadmap for an affordable, reliable and sustainable electricity system. The roadmap will focus on key actions and the system outlook to 2030.

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201 NSW Climate and Energy Action, *NSW Electric vehicle strategy*, NSW Climate Energy and Action website, NSW Government, June 2021.

202 NSW Government, *Rebates for electric vehicle purchases*, NSW Government website, NSW Government, 29 May 2024, accessed 5 June 2025.

The Roadmap will look at opportunities to harness excess solar and the role CER can play in delivering affordable, reliable and sustainable power.

Battery

Overview

Queensland does not currently have state-specific rebates for batteries as the Queensland Battery Booster program has closed.[203]

Discount on stamp duty and registration (EVs)

Overview

EV owners are eligible for a 1% discount on stamp duty, and a small discount on annual registration cost.[204]

Eligibility

Individuals that own Vehicle 1, 2 or 3 cylinders, electric or steam that are registered in Queensland.

How it works

For non-concession card and seniors card

Vehicle 1, 2 or 3 cylinders, electric or steam	Cost as at 1 July 2024	Cost as at 16 September 2024
Registration	$283.55	$226.80
Traffic improvement fee	$62.90	$50.30
CTP	$369.60	$369.60
Total	**$716.05**	**$646.70**

For concession card and seniors card issued from 1 July 1994

Vehicle 1, 2 or 3 cylinders, electric or steam	Cost as at 1 July 2024	Cost as at 16 September 2024
Registration	$141.80	$113.40
Traffic improvement fee	$62.90	$50.30
CTP	$369.60	$369.60
Total	**$574.30**	**$533.30**

Note: The above figures for stamp duty and registration for EVs is correct as of 26 May 2025, updates from 1 July 2025 will be available at www.qld.gov.au/transport/registration/fees/cost.

[203] Queensland Government, *Battery Booster rebate for householders*, Queensland Government website, Queensland Government, 9 December 2024, accessed 9 July 2025.

[204] Queensland Government, *Registration costs*, Queensland Government website, Queensland Government, n.d., accessed 5 June 2025.

Supercharged Solar for Renters Program (Solar)[205]

Overview

The Supercharged Solar for Renters Program will assist with tackling the cost of living by providing eligible landlords with rebates of up to $3,500 to install solar photovoltaic (PV) systems on their rental properties, driving down electricity bills for tenants across Queensland.

Rebates will be available to eligible Queensland rental properties with existing tenancy agreements, ensuring immediate benefits for tenants.

The program will help deliver on the Queensland Government's commitment to affordable, reliable, and sustainable energy.

This program will commence soon.

Eligibility

Eligibility requirements will be established for applicants, dwelling types, products and installers. These will be released ahead of the program launch later this year.

To be considered for a rebate, eligible solar PV systems must be quoted by eligible installers. Installations will only be eligible if they are installed after the program opens and conditional approval has been granted.

South Australia

South Australia's Virtual Power Plant (Virtual Power Plant)[206]

Overview

With the support of the Government of South Australia, South Australia's Virtual Power Plant (SA VPP) is a network of thousands of solar and Tesla Powerwall home battery systems across South Australia working together to form Australia's largest virtual power plant.

Under SAVPP, eligible social and community housing tenants can have a Tesla Powerwall home battery, with or without solar, installed and maintained at their home at no cost to them. In return, those tenants receive access to the guaranteed cheapest generally available residential electricity rate in South Australia (currently 25% below the Default Market Offer, an annual saving of more than $500 for a typical household using 4000 kWh/yr) and part of the Tesla Powerwall reserved to back up their home during an outage.

SAVPP also provides critical grid support and stability services, and has since 2018 delivered a range of firsts for VPPs and set a path for how CER can operate in the future. SA VPP was the first virtual power plant in Australia to help stabilise frequency levels in the grid. The stability services SA VPP provides have already helped with significant events such as:

- a power station trip in Queensland in October 2019

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[205] Queensland Treasury, *Supercharged Solar for Renters Program*, Queensland Treasury website, Queensland Government, n.d., accessed 5 June 2025.

[206] Department of Energy and Mining, *South Australia's Virtual Power Plant*, Department of Energy and Mining website, South Australian Government, n.d., accessed 9 July 2025.

- providing power to Port Lincoln residents during catastrophic fire conditions in November 2019
- high and low frequency issues in the grid in December 2019
- disconnections of the grid between South Australia and Victoria in November 2019, January 2020, and November 2022.

Tenants of more than 6,500 Housing SA homes already benefit from SA VPP, with more being added every month.

Eligibility

The South Australian government follows a detailed process to identify suitable Housing SA homes to participate in SA VPP. Tenants living in suitable Housing SA homes receive information from the government and Tesla to let them know their home has been shortlisted and how to join.

To maximise the potential energy bill savings for Housing SA tenants and all South Australians, SA VPP seeks to enrol homes where solar panels and a Tesla Powerwall battery can be safely installed and operated for years to come.

How it works

Tenants of eligible Housing SA and community housing homes receive an offer to have a Tesla Powerwall home battery, with or without solar, installed and maintained at their home at no cost to them. In return, those tenants receive access to the guaranteed cheapest generally-available residential electricity rate in South Australia, and a portion of the Tesla Powerwall home battery reserved to back up their home during an outage.

A typical customer joining SA VPP can save up to $551 (including GST) off their annual electricity bill, while generating clean energy for the community and supporting the grid (based on the annual saving estimate for a new residential customer when compared to the 2024–25 Default Market Offer with an annual energy consumption of 4,000 kWh/year on an anytime tariff in SA Power Networks, inclusive of all discounts). Savings will vary depending on usage and is dependent on a tenant's previous tariff and their eligibility for energy and/or cost of living-related concessions.

SAVPP customers pay for all the electricity they use – whether it comes from the solar, battery or the grid – but it is all be charged at the low electricity rate only available for SA VPP customers.

Retailer Energy Productivity Scheme[207]

Overview

The Retailer Energy Productivity Scheme (REPS) commenced on 1 January 2021.

The REPS is a South Australian Government energy productivity scheme that provides incentives for South Australian households and businesses to save energy or improve

[207] Department of Energy and Mining, *Retailer Energy Productivity Scheme (REPS)*, Department of Energy and Mining website, South Australian Government, n.d., accessed 9 July 2025.

Essential Services Commission of South Australia, *REPS FAQs for households and businesses*, Essential Services Commission of South Australia website, South Australian Government, accessed 9 July 2025.

Department of Energy and Mining, *REPS specification VPP1*, Department of Energy and Mining website, South Australian Government, n.d., accessed 9 July 2025.

energy productivity. REPS is administered by the Essential Services Commission of South Australia. The Commission ensures energy retailers comply with the Minister for Energy and Mining's specifications for REPS activities and with the REPS Code. The Commission also publishes an annual report. The REPS follows on from the Retailer Energy Efficiency Scheme (REES) which ran from 1 January 2009 to 31 December 2020.

The objective of the REPS is to 'improve energy productivity for households, businesses and the broader energy system, with a focus on low-income households. This will reduce energy costs and greenhouse gas emissions.'

The REPS achieves its objectives through the setting of energy productivity targets (EPTs) to be met by electricity and gas retailers. EPTs are determined annually by the Minister for Energy and Mining (the Minister). Energy retailers that are set annual REPS targets are known as 'obliged retailers'. To achieve their targets, obliged retailers offer incentives to households and businesses to deliver energy productivity activities in homes and business premises. Retailers also have the flexibility to design and offer individual incentive programs to customers.

Obliged retailers may offer energy productivity activities that are delivered to households and businesses by the obliged retailers and their activity providers. The Minister determines the form of the REPS energy productivity activities and the obliged retailers decide what activities and incentives they will offer to customers. This may include a discount on services, free products or products up to a certain value, a cash rebate, vouchers etc. While various approved activities can be offered by providers under the REPS, providers do not offer all REPS activities and some activity types may not be available.

There are 31 energy productivity activities offered through REPS, including:

- connecting a new or existing battery to an approved virtual power plant.
- connecting a new or existing EV Charger to an Approved DR Aggregator.

Eligibility (VPP)[208]

For connecting a New or Existing Battery to an Approved Virtual Power Plant:

Customer

- Any residential or energy consuming customer premises in South Australia where the installed product requirements and minimum installation requirements can be met, and this activity has not already been implemented.
- Any additional eligibility requirements of the chosen Approved VPP
- The activity can be implemented at the same premises on the renewal of a contract with a VPP with the customer providing explicit consent, provided that previous contract period was no shorter than three years

Battery

- Batteries shall comply with the Battery Safety Guide (Best Practice Guide: Battery Storage Equipment –Electrical Safety Requirements, Version 1.0, Published 06 July 2018) if installed after and during January 2019. Batteries installed prior to January 2019 must comply with the VPP requirements.
- Batteries must have a capacity greater than, or equal to, 2 kWh.

[208] Department of Energy and Mining, *REPS specification VPP1*, Department of Energy and Mining website, South Australian Government, n.d., accessed 9 July 2025.

- The system must support remote monitoring and remote changes to firmware and operational settings by the VPP operator.
- The system shall respond to remotely provided commands from authorised parties to: a. Charge/discharge battery. b. Perform mandatory demand response modes
- The system shall be designed such that it is protected to a suitable standard against electronic intrusion and tampering by unauthorised parties.
- Systems shall be provided with the following minimum warranties at time of installation:
  (a) Battery Energy Storage Systems (BESS) or Battery System (BS): 7 years under daily cycling operation.
  (b) Any inverter: 5 years.
  (c) Balance of system (e.g. enclosures): 5 years.
  (d) Workmanship: 5 years.
  (e) Whole of system: 5 years

How it works

The incentives received will depend on the obliged retailers' individual programs.

For *information* (not mandatory)

Productivity factors assume a 10-year contract term with the VPP and that every day of the year the VPP will ensure the premises sources electricity from the full capacity of the battery, before relying on grid energy between 6 AM – 10 AM and 3 PM – 1 AM, and that the battery will be fully recharged from the grid or on-site solar PV between 1 AM and 6AM and again between 10 AM and 3 PM.

All demand response and VPP activities (APP4, EV1, VPP1, HC2C & WH4) are not mutually exclusive.

Eligibility (EV charger)[209]

Customer

- Any residential or small energy consuming customer premises in South Australia where the installed product requirements and minimum installation requirements can be met.
- This activity must not have previously been implemented for the EV Charger.

EV Charger

The connected EV Charger must comply with the Minimum requirements of:

- Any EV charger installed shall be fitted with a smart control device.
- Any additional installed product requirements placed, as a condition of approval, on the Approved DR Aggregator.

[209] Department of Energy and Mining, *REPS specification EV 1*, Department of Energy and Mining website, South Australian Government, n.d., accessed 9 July 2025.

How it works[210]

Information only (not mandatory)

Productivity factors assume the EV charger will remain connected to an Approved DR aggregator for on average at least 8 years and that 100 per cent of maximum load will be shifted between 3pm – 1 AM on the 5 highest demand days of the year. The DRM1 signal is utilised.

Registration fee exemptions (EVs)[211]

Overview

The Government is providing a 3-year registration fee exemption for new battery electric and hydrogen fuel cell vehicles that meet the eligibility criteria (first registered from 28 October 2021 to 30 June 2025 (inclusive)).

Eligibility

The exemption is available for new battery electric and hydrogen fuel cell vehicles first registered from 28 October 2021 and up to 30 June 2025 (inclusive). A price cap of $68,750 (inclusive of GST) applies. As such, the eligibility period has now closed.

How it works

The exemption will apply for three years from the date of first registration of an eligible vehicle. For example, a new battery electric vehicle first registered on 1 July 2024 would receive the registration exemption over the period 1 July 2024 to 30 June 2027.

There is no limit on the number of new battery electric or hydrogen fuel cell vehicles that can receive relief during the eligible time period, subject to the eligibility criteria being met.

Vehicles first registered on or after 1 July 2025 will not receive any registration exemption. Other registration related charges including Compulsory Third Party insurance, Emergency Services Levy and stamp duty will still be payable when a vehicle is registered.

The registration charge rebate for a vehicle first registered in 2024-25 (from 1 July 2024 to 30 June 2025) is $152. The registration exemption for the following two years will be automatically applied as a discount during the future registration renewal process.

Before applying you should read the Registration Fee Exemption Terms and Conditions.

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210 Department of Energy and Mining, *REPS specification EV 1*, Department of Energy and Mining website, South Australian Government, n.d., accessed 9 July 2025.

211 Department of Treasury and Finance, *Incentives for electric vehicles*, Department of Treasury and Finance website, South Australian Government, n.d., accessed 9 July 2025.

Victoria

Solar panel rebate for owner-occupiers (Solar)[212]

Overview

The solar panel (PV) rebate helps Victorian households and rental providers to install solar PV systems.

Solar panel rebates of up to $1,400 are available for eligible Victorians with existing homes, homes under construction and rental properties.

Rebates are released each month according to the scheduled rebate release dates. You can reduce your upfront cost further by applying for an interest-free loan to match the rebate amount.

Eligibility

Customer

As a Victorian householder, you could receive a **solar panel (PV) rebate** if:

- you are the owner-occupier of an existing property or the owner of a home under construction where the system is to be installed
- combined household taxable income of all owners is less than $210,000 per year
- value of the property is under $3 million (for an existing home or when construction is complete)
- property address has not previously received a solar panel (PV) or solar battery rebate under this program
- the property address has not had a solar panel (PV) system installed in the last 10 years*
- you received a Solar Homes rebate and/or loan but have moved house. You can apply for another incentive at your new address as an owner-occupier if the property has not received these rebates before.

Solar

You must use an authorised solar retailer and use only eligible products.

How it works

- Ask for a written quote and wait for Solar Victoria to confirm the quote has been uploaded into the portal.
- Get pre-approval to connect and export to the grid.
- Prove you are eligible and upload paperwork into the portal.
- Wait for Solar Victoria to confirm your eligibility and send your QR code.
- Install the solar system (within 120 days, or 240 days for homes being built).
- The rebate will be paid directly to your retailer and deducted from your invoice. You only pay any outstanding balance once the system is installed.

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212 Solar Victoria, *Solar panel rebate*, Solar Victoria website, Victorian Government, 9 July 2025, accessed 9 July 2025.

The solar panel (PV) rebate is a discount of up to 50 per cent of the purchase cost to install solar panels, to a maximum of $1,400. It is calculated after any other discounts have been applied, including Small-scale Technology Certificates.

Pay the difference to the retailer – the total cost minus the rebate.

Start repaying the interest-free loan, if you opted for one. Loan repayments:

- are paid monthly over 4 years
- begin 30 days after the installation is approved.

Solar panel rebate for renters (Solar)[213]

Overview

The incentive provides a rebate of up to $1,400 to eligible rental providers for the installation of solar panel (PV) systems on a maximum of two rental properties each financial year. This helps renters save on their energy bills. An agreement must be signed by the rental provider and its renter/s.

Rental providers can reduce your upfront cost further by applying for an interest-free loan to match the rebate amount.

Eligibility

As a **Victorian rental provider**, you could receive a rebate for your rental property if:

- your renters have a combined household taxable income of less than $210,000 per year
- you have not received more than two rebates for a rental property during the current financial year
- value of the property is under $3 million
- property address has not previously received a solar panel (PV) rebate or a solar battery rebate under the Solar Homes Program
- a Solar Homes Program Agreement has been signed by you and your renter(s)
- you received a hot water rebate as an owner-occupier and have rented the same property to a tenant, you can apply for the solar PV rental rebate as a rental provider (2 per financial year still applies)
- you received a solar battery loan as an owner-occupier and have become a rental provider of the same property. You can get a solar PV rental rebate as a rental provider if your solar PV system is older than 10 years.

You must use an authorised solar retailer and use only eligible products.

How it works

- Ask for a written quote and wait for confirmation from Solar Victoria confirming the quote has been uploaded.
- Make sure your retailer gets pre-approval to connect and export to the grid.
- Prepare an agreement with your renter and include this in your application.

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213 Solar Victoria, *Solar rebates for rental properties*, Solar Victoria website, Victorian Government, 9 July 2025, accessed 9 July 2025.

- Provide you are eligible and upload paperwork into the portal.
- Install the solar system (within 120 days, or 270 days for home being built).
- Pay the difference to the retailer – the total cost minus the rebate.
- Start repaying the interest-free loan, if you opted for one.
- The rebate will be paid directly to your retailer and deducted from your invoice. You only pay any outstanding balance once the system is installed.

Solar rebates for community housing[214]

Overview

This incentive provides funding for Not-for-profit community housing organisations of up to $1,400 per tenancy on behalf of their renters to install solar panels on the properties they manage to reduce cost of living pressures for low-income Victorians.

Eligibility

- is a registered community housing organisation listed on the Housing Registrar Public Register as a community housing provider, OR
- is registered with the Australian Charities and Not-for-Profits Commission, and
- can demonstrate that the provision of affordable housing is one of the organisation's core activities
- has properties that are owned or managed by the community housing organisation
- confirms that the full value (100%) of energy savings achieved by installing solar panels will be passed onto renters.

You must use an authorised solar retailer and use only eligible products.

Solar panel system must be installed on an existing residential dwelling. This includes free standing homes, multi-unit dwellings and apartments. New buildings under construction or communal living spaces are not eligible under this program.

How it works

Email Solar Victoria with a letter of support using this template wording on your organisation's official letterhead to CHO@team.solar.vic.gov.au.

Solar Victoria will check the organisation's eligibility. If eligible, organisations are invited to register on the Solar Victoria Platform to register and add properties that they are applying for so an authorised retailer can connect them to a quote.

Get a quote from an authorised solar retailer and upload the quote to the platform.

Log in to the platform to review quotes and start applying.

Solar Victoria will fund up to $1,400 or a maximum of 50% of the costs of the solar panel installation per individual residential rental agreement. For example, if the net costs of the installation are $2,000, the rebate value applied is $1,000 (not $1,400).

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[214] Solar Victoria, *Solar rebates for community housing*, Solar Victoria website, Victorian Government, 9 April 2025, accessed 9 July 2025.

Hot water rebate[215]

The incentive provides Victorian households with a rebate of up to $1,000 to install eligible energy efficient heat pump or solar hot water systems to save on energy bills and reduce emissions.

New local content incentive

From 1 July, households that choose an eligible hot water system with local content will receive a higher rebate of up to $1,400. The existing $1,000 rebate will remain for other eligible hot water systems.

Eligibility

As a Victorian householder, you could receive a hot water rebate if:

- you are the owner-occupier of an existing property where the system is to be installed
- the household taxable income of all owners combined is less than $210,000 per year
- the value of the property is under $3 million
- the property address has not already received a hot water or a solar battery rebate under the Solar Homes Program
- the hot water system to be replaced is at least 3 years old from the date of purchase
- you received a Solar Homes rebate and/or loan but have moved house. You can apply for another incentive at your new address as an owner-occupier if the property has not received these rebates before.

You must work with an authorised hot water retailer and use only eligible products.

How it works

Select a system using an approved product and ask for a written quote.

Wait for email confirmation from Solar Victoria that the quote has been uploaded and get pre-approval.

Prove you are eligible by uploading relevant paperwork into the portal.

Wait for Solar Victoria to confirm eligibility and send your QR code.

Install the hot water system within 120 days.

Pay the difference to the retailer – the total cost minus the rebate.

Victorian Energy Upgrades for homes (Range of energy-efficient products)[216]

Overview

You can receive rebates or discounts on equipment and appliances that help save energy and reduce greenhouse gas emissions.

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215 Solar Victoria, *Hot water rebate*, Solar Victoria website, Victorian Government, 9 July 2025, accessed 9 July 2025.

216 Department of Energy, Environment and Climate Action (DEECA), *Victorian Energy Upgrades for businesses*, DEECA website, Victorian Government, n.d., accessed 8 July 2025.

Instead of a like-for-like replacement, choose energy-efficient products and take advantage of the rebates and discounts available.

From early 2026, the Victorian government is working to introduce ceiling insulation as an activity under the Victorian Energy Upgrades initiative to support eligible households to access discounts on ceiling insulation.

Eligibility

- You must reside in Victoria.
- Your premises need to be eligible for the specific upgrade you're after.
- Upgrades must be completed by an accredited provider.

How it works

Option 1: Accredited Provider installation

1. Choose the eligible upgrade listed with Essential Services Commission.
2. The VEU accredited provider provides an upfront discount to you.
3. The VEU accredited provider completes the installation of an approved product.

Option 2: Choose your own installer

1. Choose the eligible upgrade listed with Essential Services Commission.
2. Hire a qualified tradesperson partnered with an accredited provider to handle the paperwork and secure your discount.
3. Choose an eligible product.

Your qualified tradesperson:

- provides a quote including the discount
- completes the installation of an approved product
- returns completed forms to the accredited provider to process the discount.

Victorian Energy Upgrades for businesses[217]

Overview

Businesses can reduce energy costs and greenhouse gas emissions by accessing discounted energy-efficient products and services.

Businesses can undertake deemed activities[218] or custom upgrades[219] (also known as Project-Based Activities), which are specific to an energy efficiency project at a business premises.

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217 Department of Energy, Environment and Climate Action (DEECA), *Victorian Energy Upgrades for businesses*, DEECA website, Victorian Government, n.d., accessed 8 July 2025.

218 Department of Energy, Environment and Climate Action (DEECA), *Victorian Energy Upgrades products*, DEECA website, Victorian Government, n.d., accessed 8 July 2025.

219 Department of Energy, Environment and Climate Action (DEECA), *Victorian Energy Upgrades products*, DEECA website, Victorian Government, n.d., accessed 8 July 2025.

Deemed activities for businesses include:

- heating and cooling
- hot water systems
- cold rooms
- commercial and industrial lighting
- pre-rinse spray valves.

Custom upgrades are tailored to specific technologies, such as:

- process heat and steam
- HVAC
- refrigeration systems
- fans and motors
- renewable energy.

The custom upgrades approach is useful for larger projects, because the measurement and verification process requires a qualified professional and therefore involves a higher cost of participation.

To be eligible, your project must reduce greenhouse gas emissions.

It is important to speak to an accredited provider before you undertake a custom upgrade.

Eligibility

Some Victorian large energy consuming facilities are exempt from the program and cannot participate in the program unless they opt-in. The Essential Services Commission maintains a register of addresses so that businesses and accredited providers can identify which facilities cannot access incentives.

Further information is available on the Register of Scheduled Activity Premises on the Essential Services Commission website.

How it works

Option 1: Accredited provider installation

1. Choose the eligible upgrade listed with the Essential Services Commission.
2. The VEU accredited provider provides an upfront discount to you.
3. The VEU accredited provider completes the installation of an approved product.

Option 2: Choose your own installer

1. Choose the eligible upgrade listed with Essential Services Commission.
2. Hire a qualified tradesperson partnered with an accredited provider to handle the paperwork and secure your discount.
3. Choose an eligible product.

Your qualified tradesperson:

- provides a quote including the discount

- completes the installation of an approved product
- returns completed forms to the accredited provider to process the discount.

Energy Efficiency in Social Housing Program (EESHP)[4]

Overview

Co-funded by Australian Government via the Social Housing Energy Performance Initiative (see www.dcceew.gov.au/energy/programs/social-housing).

Eligibility

We're targeting homes across Victoria with gas appliances and low energy efficiency.

Residents don't need to apply to participate in the program. Residents from eligible properties will be sent a letter, followed by a phone call and face to face discussion to confirm enrolment in the program.

Participating residents will need to agree to the removal of existing gas appliances.

How it works

As part of the program, gas appliances will be replaced by efficient electric ones at no cost to the tenant, including:

- air conditioners for heating and cooling
- heat pump hot water systems
- electric ovens and cooktops
- draught and gap sealing
- insulation to ceilings
- removing gas connections
- solar PV.

Appendix C: Definitions for data collection

Data Field	Definition
Account Number	the unique customer identifier for billing purposes
Achievement of Conditional Discounts	whether all conditional discounts that could have applied to the bill were applied
Behavioural Demand Response Event	the defined time period (for example, 2 hours) during which customers are asked to reduce their consumption in return for a financial reward (such as bill credits or reward program credits)
Behavioural Demand Response Event Notification	notification or communication from the retailer to a customer to advise them of a forthcoming Behavioural Demand Response Event
Behavioural Demand Response Program	a program customers can sign up to whereby the retailer will send them Behavioural Demand Response Event Notifications
Bill Issue Date	the date a bill was issued.
Company Name	retailer name
Concession Type(s)	description of the concession(s) that have been applied to the bill
Conditional Discount Type	description of the condition that must be met for the conditional discount to be applied, such as paying a bill on time or by direct debit, and having both an electricity account and a gas account with the retailer
Consumer Energy Resource	the energy generation and storage resources located on the customer's premises and owned by, or in complete or partial control of the customer
Contract Term (Months)	number of months over which the offer applies
Controlled Load Tariff	whether the offer charges a separate price that applies to one or more appliances that are separately metered
Demand Charges ($)	additional charges that applied to the bill in relation to a demand tariff (excluding goods and services tax)
Demand Tariff	whether the offer includes additional demand-based charges on top of any usage charges
Distributor	distributor corresponding to the state and postcode in which electricity was supplied
Dual Fuel Customer	whether the customer also had a gas account with the retailer at the location where electricity was supplied
Electric Vehicle	any vehicle that is powered by electricity and can be charged from the electricity grid, including vehicles powered exclusively by

	electricity and plug-in hybrid electric vehicles that are powered by both electricity and a combustion engine
Electric Vehicle Tariff	an offer exclusive to a customer with an electric vehicle, or an offer that includes either: a super off-peak period exclusive to customers with an electric vehicle or a c/kWh discount or bill credit determined to account for any scheduled charging session for an electric vehicle
Electric Vehicle Tariff Consumption Discount ($)	total dollar amount for any discount applied to the bill (excluding goods and services tax) for consumption used to charge an electric vehicle. Not applicable where the electric vehicle tariff features a super off-peak period rather than an electric vehicle tariff consumption discount
Electric Vehicle Tariff Consumption Discount Usage	total amount of electricity consumed by the customer attributable to charging of an electric vehicle for which an electric vehicle tariff consumption discount is applied. Not applicable where the electric vehicle tariff features a super off-peak period rather than an electric vehicle tariff consumption discount
Flat Tariff	whether the offer charges the same price for electricity regardless of the time of day (also known as single rate or flat rate)
From Different Retailer	whether the customer was with a different retailer in the previous billing period
Green Energy Charges ($)	additional charges relating to a green energy scheme, such as GreenPower (excluding goods and services tax)
GreenPower	government managed scheme that enabled Australian households and businesses to displace their electricity usage with certified renewable energy, which was added to the grid on their behalf
Hardship Customer	whether the customer participated in the retailer's hardship program at the invoice end date, or received hardship assistance during the billing period
Hardware Subscription/Finance Arrangement	agreement between a customer and the retailer whereby the customer pays a set fee or regular payment to the retailer for purchase or use of any of the following hardware provided by the retailer or its business partners: solar panels and inverters, batteries, electric vehicle charging infrastructure or electric vehicle
Invoice Date From	the first day of the billing period (inclusive)
Invoice Date To	the last day of the billing period (inclusive)
Negotiated FiT	whether the offer includes a payment to the customer for electricity generated from solar panels and fed into the grid at a negotiated or state-mandated minimum rate
NMI	National Metering Identifier, the unique identifier for the connection point to the grid
Offer End Date	last day that electricity was or will be supplied to the customer for the offer that applied to the bill
Offer Start Date	first day that electricity was supplied to the customer for the offer that applied to the bill

Offer Type	whether the customer was on a market or standing offer during the billing period, as defined by the National Energy Retail Law in New South Wales, South Australia and South East Queensland and the Energy Retail Code (Vic)
Other Charges ($)	additional charges that are not captured by any other defined categories, including credit card fees, paper bill fees, or applicable bill corrections that increase the amount required to be paid (excluding goods and services tax)
Other Discounts ($)	additional discounts or rebates that are not captured by any other defined categories, including any applicable bill corrections that reduce the amount required to be paid (excluding goods and services tax)
Other ID	a unique identifier for an offer if a Plan ID is not provided
Payment Plan Customer	whether the customer had an arrangement to pay the retailer in instalments (not including flexible arrangements for convenience or budgeting) at the invoice end date
Plan ID	Energy Made Easy (EME) or Victorian Energy Compare (VEC) identifier for the offer
Plan Name	name of the offer
Postcode	postcode in which electricity was supplied
Premium FiT	whether the offer includes a payment to the customer for electricity generated from solar panels and fed into the grid at a premium solar scheme rate
Rewarded for Successful Participation in a Behavioural Demand Response Event	customer received some type of reward from the retailer for taking part in a behavioural demand response event. The reward may not appear on the customer's bill and take the form of: a bill credit, a gift card/voucher, or any other reward that is redeemable for goods or services, or provides a discount on the purchase of goods or service
Smart Meter	whether the customer had a device that digitally measures energy use, also known as an advanced meter or 'type 4' meter
Solar Customer	whether the customer was on an offer that included a premium feed-in tariff or negotiated feed-in tariff payment
State	the state in which electricity was supplied (Victoria, New South Wales, South Australia, or South East Queensland)
Subscription Plan	whether the offer charges a fixed amount each period to cover for a specified amount of electricity
Time of Use/Flexible Tariff	whether the offer charges different prices depending on the time of day
Total Concessions ($)	total concessions that applied to the bill (excluding goods and services tax)
Total Conditional Discounts ($)	total conditional discounts that could have applied to the bill if all conditions were met (excluding goods and services tax)
Total Conditional Discounts Applied ($)	total conditional discounts that were applied to the bill (excluding goods and services tax)

Total Current Balance ($)	total amount owed by the customer as at the bill issue date (excluding goods and services tax)
Total Energy Bill Relief Fund ($)	total Energy Bill Relief Fund payments that applied to the bill (excluding goods and services tax)
Total General Concessions ($)	additional concessions that applied to the bill that are not captured by any other defined categories (excluding goods and services tax)
Total Off-Peak Usage Charge ($)	total amount of variable costs charged to the customer based on the customer's off-peak usage (excluding goods and services tax)
Total Peak Usage Charge ($)	total amount of variable costs charged to the customer based on the customer's peak usage (excluding goods and services tax)
Total Shoulder Usage Charge ($)	total amount of variable costs charged to the customer based on the customer's shoulder usage (excluding goods and services tax)
Total Super Off-Peak Usage Charge ($)	total amount of variable costs charged to the customer based on the customer's super off-peak usage (excluding goods and services tax)
Total Solar Feed-in Supply (kWh)	total amount of electricity that the customer supplied to the grid during the billing period by the solar panel system attached to the location where electricity was supplied
Total Solar FiT Rebate ($)	total amount of negotiated feed-in tariff and premium feed-in tariff payments that applied to the bill (excluding goods and services tax)
Total Supply Charge ($)	total fixed costs charged regardless of the amount of electricity the customer consumed from the grid (excluding goods and services tax)
Total Targeted Concessions ($)	total concessions that were applied to the bill if all conditions for the concession were met (excluding goods and services tax)
Total Unconditional Discounts ($)	total unconditional discounts that applied to the bill (excluding goods and services tax)
Total Usage (kWh)	total amount of electricity that the customer consumed from the grid during the billing period
Total Usage Charge ($)	total variable costs charged based on the amount of electricity the customer consumed from the grid (excluding goods and services tax)
Unconditional Discount Type	description of the reason that an unconditional discount was applied, such as a special promotion applying at the time of signing up
Virtual Power Plant	collection of customer-owned energy resources (including solar panel inverters and batteries) that the retailer has a degree of control over and that is used by the retailer to participate in wholesale electricity markets or frequency control and ancillary services markets
Virtual Power Plant Agreement	agreement between a customer and the retailer whereby the customer relinquishes a degree of control to the retailer over solar panel inverters and batteries located at the customer's supply address in return for a financial reward (such as upfront payments,

	bill credits, discounts off the cost of Consumer Energy Resources, higher feed-in tariff rates, or reward program credits)
Virtual Power Plant Credit ($)	total amount for any credit applied to the bill (excluding goods and services tax) for participation in the retailer's Virtual Power Plant.

Appendix D: Terms of reference

COMPETITION AND CONSUMER ACT 2010

INQUIRY INTO ELECTRICITY SUPPLY IN AUSTRALIA

I, Scott Morrison, Treasurer, pursuant to subsection 95H(1) of the *Competition and Consumer Act 2010*, hereby require the Australian Competition and Consumer Commission (ACCC) to hold an inquiry into prices, profits and margins in relation to the supply of electricity in the National Electricity Market.

Matters to be monitored and taken into consideration in the inquiry include but are not limited to:

i. electricity prices faced by customers in the National Energy Market including both the level and the spread of price offers, analysing how wholesale prices are influencing retail prices and whether any wholesale cost savings are being passed through to retail customers;
ii. wholesale market prices including the contributing factors to these such as input costs, bidding behaviour and any other relevant factors;
iii. the profits being made by electricity generators and retailers and the factors that have contributed to these;
iv. contract market liquidity, including assessing whether vertically integrated electricity suppliers are restricting competition and new entry; and
v. the effects of policy changes in the National Electricity Market, including those resulting from recommendations made by the ACCC in its Retail Electricity Pricing Inquiry report of July 2018.

Where appropriate, the inquiry will make recommendations to government(s) to take any proportional and targeted action considered necessary to remedy any failure by market participant(s) (or the market as a whole) to deliver competitive and efficient electricity prices for customers.

The ACCC should make use of publicly available information, including that published by the Australian Energy Regulator, the Australian Energy Market Commission or the Australian Energy Market Operator, where appropriate.

This is not to be an inquiry into supply by any particular person or persons, or by a State or Territory Authority.

The inquiry is to commence today. The inquiry is to provide its first report to me by 31 March 2019 and no less frequently than every six months thereafter. The first report should focus on setting out the analytical framework for monitoring and provide information about expectations of market outcomes and market participant behaviour. The inquiry should also provide information to the market as appropriate. The inquiry is to conclude and provide its final report by 31 August 2025.

DATED THIS 20TH DAY OF August 2018

SCOTT MORRISON
Treasurer