

Australian Energy Market Commission

FINAL REPORT

2018 Retail Energy Competition Review

15 June 2018

Inquiries

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

E: aemc@aemc.gov.au

T: (02) 8296 7800

F: (02) 8296 7899

Reference: RPR0007

Citation

AEMC, *2018 Retail Energy Competition Review, Final Report*, 15 June 2018, Sydney.

About the AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

This work is copyright. The Copyright Act 1968 permits fair dealing for study, research, news reporting, criticism and review. Selected passages, tables or diagrams may be reproduced for such purposes provided acknowledgement of the source is included.

Executive Summary

The Retail Energy Competition Review is an annual report that provides an update on the state of competition in the retail energy market and the outcomes that consumers are achieving. It is an important tool for mapping progress and change over time, and in identifying emerging industry issues that require further analysis or action to address.

Overview

This year's review found that while competition in the retail energy market continues to evolve, it is currently not delivering the expected benefits to consumers. After a period of stable or improving customer satisfaction, levels of residential and small business consumer confidence and satisfaction with retail energy market have declined significantly over the last year. In particular:

- consumers have generally experienced substantial increases in retail energy prices. These price increases have been driven largely by increasing wholesale costs. Network costs are also a significant component of retail prices, and retailers have not actively engaged in the network pricing process on behalf of consumers.
- retail energy offers, particularly the discounting behaviour, are confusing for consumers. Consumers tend to only get a better deal if they leave or threaten to leave a retailer.

This has led to concerns over energy affordability, and increased interest in the sector from Governments and other regulatory bodies. With retailers being slow to innovate on tariff, pricing and products, consumers have also taken matters into their own hands, with increased investment in distributed energy resources, such as solar PV systems and batteries.

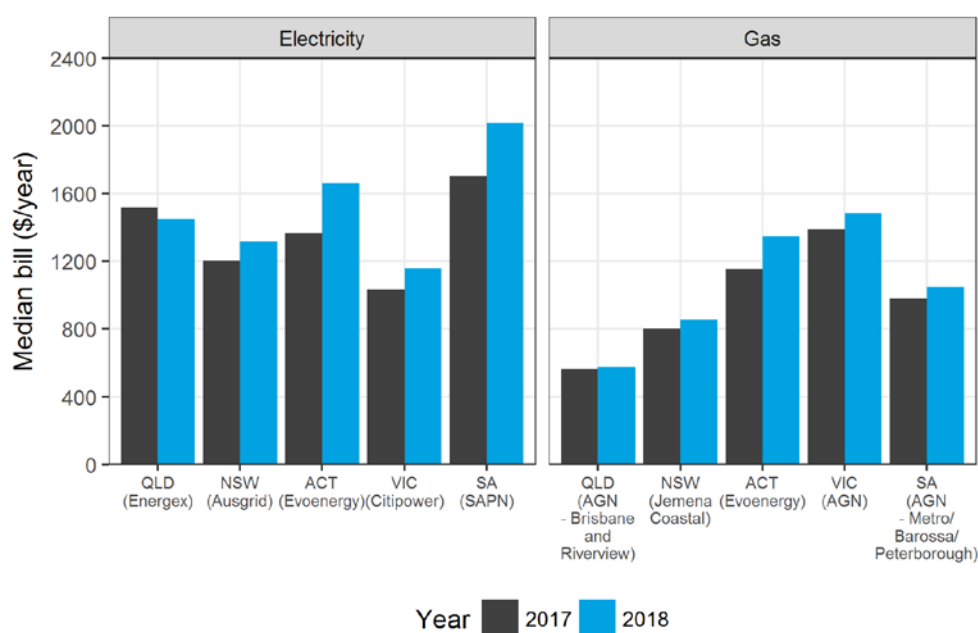
There is considerable scope to improve customer experiences and outcomes in the retail energy market by:

- retailers changing their pricing behaviour and product offerings to offer tariffs that can be more easily understood by consumers, and being more proactive with their consumer base
- facilitating the further empowerment of consumers, through improved ease of access to consumption data, access to enabling technology and education of consumers.

Context

The most important change in the industry in the past year was the significant increases in retail electricity prices that occurred in July 2017 and January 2018. As shown in Figure 1 below, annual residential electricity bills for the representative consumer rose between, \$110 to \$316, except in South East Queensland where bills fell by \$70. The annual bills for small businesses increased by between five and 28 per cent. This has put pressure on many household and business budgets, and has been referred to as an energy affordability crisis by the chairman of the Australian Competition and Consumer Commission (ACCC) in a National Press Club address in September 2017.

Figure 1 – Residential energy bills since 2017



Source: Energy Made Easy (accessed 5 January 2017 and 21 March 2018) and Victorian Energy Compare (accessed 16 February 2017 and 20 March 2018). Note: Bills are for a median market offer with all discounts realised. Annual consumption levels vary between regions – ranging for electricity from 3865 kWh in Victoria to 7151 kWh in the Australian Capital Territory, ranging for gas from 7366 MJ in Queensland to 62528 MJ in Victoria.

Network and wholesale electricity costs have a large bearing on the costs of retailers, making up around 70-80 per cent of the consumer price. Tariff structures of regulated networks also influence the tariff structures of energy retailers. In 2017, the major factor causing the retail electricity price rises was the substantial increase in wholesale costs. This was driven by the retirement of the Northern and Hazelwood generators, and high gas commodity costs. While energy retailers cannot directly control wholesale or regulated network costs, they can participate in network pricing regulatory processes, and they do control their own retail pricing and marketing strategies.

The ACCC estimated in 2016/17 that regulated network costs comprised 48 per cent of retail electricity prices nationally. Despite this, retailers have chosen not to engage actively in these regulatory processes. This is in contrast to the telecommunications sector, where retailers have consistently participated in the regulatory proceedings of the National Broadband Network.

Further, retail pricing plans tend to pass on the complexity of network tariffs and there has been very limited retail tariff innovation. Discounting remains the predominant form of price competition between retailers. Out of the 5,940 gas and electricity retail market offers available in March 2018, only 20 per cent have no price discounts. The way energy offers are presented and marketed has contributed to increased customer confusion and dissatisfaction in the past year.

Over the past year there have been significant reductions in residential and small business customer satisfaction levels in both the electricity and gas sectors.

- On value for money, residential consumers rated the energy sector lower than the banking, water, broadband and mobiles sectors. Electricity and gas were also the

only sectors where positive sentiment on value for money decreased and negative sentiment increased.

- Small business customer satisfaction with current electricity providers decreased from 70 per cent to 53 per cent – the lowest level since the survey was first conducted in 2014.

The concerns about energy affordability and reduced customer satisfaction have led to a significant increase in interest and intervention in the sector over the past year. This has included:

- the retailer roundtable meetings with the Prime Minister on 9 and 30 August 2017
- a series of rule changes proposed to protect consumers, with five from the Hon. Josh Frydenberg MP, Minister for the Environment and Energy
- governments directly intervening on price or behaviour in wholesale markets, such as the Queensland Government direction to Stanwell and Tasmanian Government wholesale intervention, or undertaking investments that have potential to influence future wholesale costs and retail prices
- governments introducing measures to improve energy affordability, such as the New South Wales Government's energy affordability package and the Queensland Government's affordable energy plan
- the commencement of the ACCC's retail electricity pricing inquiry
- the completion of the Victorian Government's retail energy market review, where re-introduction of a form of price regulation, through the Basic Service Offering, is being considered.

It is against this background that this year's review has been carried out.

The structure, conduct and performance framework

Consistent with last year, the report uses a structure-conduct-performance framework to analyse the state of the industry and outcomes for consumers. Tables 1 and 2 summarises the trends in the key measures and metrics of competition over the past year as they apply to this framework. When assessing competition and the outcomes it delivers for consumers, no single indicator can reveal the state of competition. Rather, these measures should be assessed in combination with other metrics, along with any trends over time to provide a more complete assessment of competition.

The developments in structure, conduct and performance over 2017/18 are discussed in more detail below, along with

- areas for advancement that could empower consumers more
- reforms currently underway or being considered to assist consumers, and
- recommendations.

There are structural signs that competition is continuing to develop

There are 16 gas retail brands and 33 electricity retail brands across the NEM-based jurisdictions. In all jurisdictions with price deregulation, the incumbent Big 3 (Origin

Energy, AGL and EnergyAustralia) retailer energy market share continues to fall. Since 2010 to 2017, Tier 2 retail market share has increased, ranging from 8.8 per cent in South East Queensland to 16.4 per cent in Victoria.

Vertically integrated Tier 2 versus smaller stand-alone retailers

The Big 3 maintain dominant positions in each jurisdiction, and the combined market share of these retailers remains over 75 per cent across most jurisdictions, except Victoria, where it is 59 per cent. There are however signs that a number of other electricity retailers are strengthening their competitive positions. This is particularly true for Tier 2 retailers who have generation assets.

For example, Alinta Energy, by securing wholesale contracts with CS Energy in Queensland and purchasing the Loy Yang B power station in Victoria, has improved its ability to manage wholesale costs in the current market conditions. This has allowed Alinta to offer more aggressive pricing in both regions, and place additional pressure on the incumbent retailers to maintain their customer base.

Conversely, the ability of smaller electricity retailers to increase their competitive presence over the past year appears more limited. These smaller retailers have typically been responsible for driving the emerging tariff innovation and value-add product and services competition in the market that has enabled consumers to better manage their energy use and bills. As they have neither vertically integrated generation assets, nor access to a large amount of demand response resources, the smaller retailers have over the past year become increasingly exposed to higher wholesale contract costs and lower levels of wholesale contract market liquidity. This means their level of risk in offering affordably priced retail contracts where prices do not change, is greater than their competitors' and exposes them to a potential financial loss.

Wholesale contract market transparency

A number of smaller retailers have suggested that transparency is a problem in the wholesale contract market. They have questioned whether the higher wholesale costs they experienced over the past year are similar to those incurred by vertically-integrated retailers.

While there is publicly available information on wholesale contract costs and the amount traded on the Australian stock exchange (ASX), this only tells a partial story. It does not capture information about the over-the-counter (OTC) contracts that retailers can enter into with generators, which we understand still make up a significant portion of the wholesale contract market. Separately there is also no information publicly available on the internal transfer costs that retailers incur to access their own generation.

The Australian Financial Market Authority (AFMA) last completed a survey of over-the-counter wholesale electricity contracts in 2016. We understand that there is an intention to publish a similar report for later this year, has and will not be published at the time of this review. If data from this survey was updated to include data on cost and term of the contracts in a manner equivalent to the de-identified data published on ASX contracts, it may provide some benefit to the market.

In New Zealand, all hedge transactions (exchanged traded and OTC) are collected and published in a transparent way that protects the commercial parties' interests. The Energy Security Board (ESB) is also currently examining potential reporting and market-making obligations of vertically integrated retailers as part of its work on the National Energy Guarantee. This work may provide a platform for not only over the counter contract data, but also internal transfer pricing data to be disclosed.

Innovation

Another structural shift in the retail market is the continued growth in rooftop solar PV systems and the emerging growth of batteries. This innovation has been consumer led, rather than retailer led, and has been a response to high retail prices, and the development of new technology.

It means consumers can now generate their own electricity and better manage their consumption. This represents a departure from the traditional retailer electricity supply model. The strong consumer interest in, and growth of, solar PV is now prompting retailers to offer solar products and tariffs.

In considering how competition is developing, it is important to recognise that the retail energy market is still maturing. The mobiles sector, generally viewed as an effectively competitive market providing consumer-focused offerings, has had retail price deregulation in place for over two decades. In contrast, for retail electricity, Victoria, the most mature market has had price deregulation in place for less than a decade, New South Wales deregulated prices less than five years ago, and South East Queensland only two years ago. The retail energy market will continue to evolve in the coming years as consumers change preferences in how they manage their energy use, and technology improves.

Customers find retail prices and products confusing

The competitive energy market has not yet evolved in a way that is delivering the desired outcomes for consumers. Pricing practices of energy retailers and the predominance of discounts has created a confusing and complicated landscape for consumers to traverse.

Common characteristics of retail energy market pricing include:

- **Complex and confusing tariff structures.** It is difficult for the average consumer to decipher usage blocks, demand charges, and different time-of-use pricing arrangements. Retailers have chosen to minimise their risk by passing through complex network pricing structures, and in some cases adding up to three usage blocks above those specified by networks. This makes it more difficult for consumers to comprehend and compare tariffs, and contrasts with mobiles, where retailers manage complex costs and provide simple priced offerings.
- **Discount claims are hard to compare.** The industry practice of marketing campaigns focused on percentage discounts off standing offers that are inconsistent between retailers makes it difficult for consumers to compare offers. A higher percentage discount does not always align to a cheaper customer outcome. Comparison is further complicated because discounts apply to different parts of the bill, with some only applying to usage and others to the whole bill.

- **Many discounts are conditional.** Discounts offered are often conditional upon the customer meeting certain conditions. Of the 5,940 gas and electricity retail offers available in March 2018 across NEM-based jurisdictions, 57 per cent had at least one conditional offering. The most common is for customers paying their bill on time. This practice has become more prevalent, with the highest pay on time discount reaching 47 per cent in Victoria. Discounts can provide savings, but if customers fail to meet the conditions they are penalised significantly. Pay on time discounts result in an effective 'late payment fee' for customers, despite late payment fees being banned in several jurisdictions.
- **Increasing price dispersion, but driven by discounting not effective segmentation. Most retailers have a large number of offers in the market.** In theory, a wide dispersion of pricing offers is often associated with an effectively competitive market and enhanced outcomes for customers. This generally suggests effective customer segmentation and retailers are competing to provide products and services tailored to each customer's preferences. However, price dispersion in retail energy appears to be driven by the discounting practices of retailers, rather than appropriate market segmentation. This suggests retailers are differentiating based on customer inertia, rather than customer preferences.

The above retail energy market pricing practices have been in place for some years. Given consumers have limited time, ability and willingness to compare offers, the levels of pricing 'noise' that exists undermines the likelihood they can select the best retailer and plan for their circumstances. There are though some early signs of improved pricing practices by retailers designed to simplify offers for customers. In the past year, there has been:

- more retailers offering 'no discount' plans
- the introduction of fixed price plans and fixed bill plans, and
- a series of payment options including prepayment available in the market.

These new tariffs or pricing offers are all simpler for consumers to understand, compare and make informed decisions about. At this stage, these alternative offers remain limited and the uptake by consumers is unclear.

There has also been the emergence of new energy service providers in the retail energy market utilising technology, digital platforms and software solutions to create simple service offerings for electricity consumers. The providers are supplying services in competition with retailers (for example, Pooled Energy) or in combination with retailers (for example Reposit with Diamond Energy). They use business models where technology allows additional value from the market to be realised, and the benefit shared between the retailer and customer. While the level of product and service innovation by traditional retailers remains limited, there are indications they are starting to reconsider their value proposition to consumers.

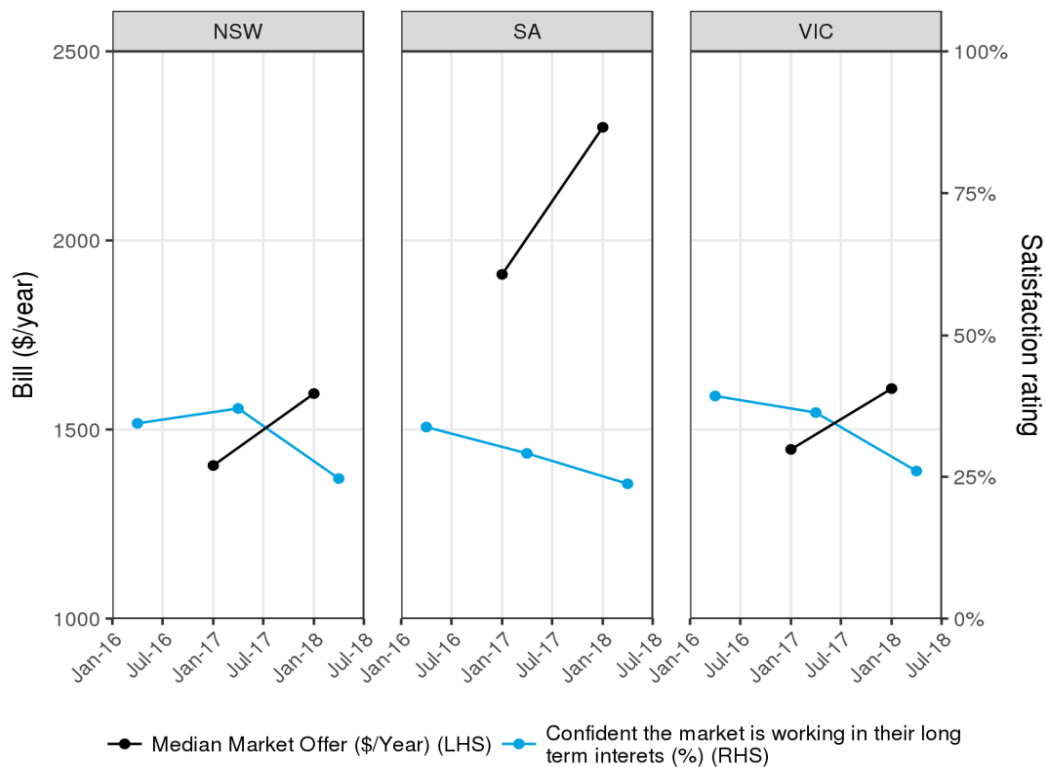
The way residential consumers interact with the retail energy markets varies

Residential consumer attitudes towards the retail energy market in April 2018 showed that:

- only 25 per cent of consumers were confident that it was working in their long-term interests, down 10 per cent from the previous year
- 50 per cent of consumers felt they had access to easily understood market information, down seven per cent from the previous year
- 58 per cent were confident they could make good decisions, down 11 per cent from the previous year.

The decline in these consumer confidence metrics are correlated with the significant rises in price and bills to customers that occurred in the last year, as shown in Figure 2.

Figure 2 – Electricity bills and confidence the market is working for consumers



Source: AEMC analysis of pricing data from Energy Made Easy (accessed 5 January 2017 and 21 March 2018) and Victorian Energy Compare (accessed 16 February 2017 and 20 March 2018) using representative consumer consumption levels, and Energy Consumers Australia's Energy Consumer Sentiment Survey Wave 1, 3 and 5. Waves 2 and 4 have not been included due to seasonal variations.

Consumer trust in the energy sector has dropped from 50 per cent in 2017 to 39 per cent in 2018. Consumers have responded in differing ways to the challenges faced in engaging with the market and the price increases. There have been:

- disengaged consumers
- consumers that have been more motivated to shop around for better deals
- consumers, who in the absence of retailer innovation, have invested in solar PV or batteries to gain greater control over their energy consumption and bills, and
- vulnerable consumers, who been particular affected by the price increases.

Each category is explored further below.

Consumer disengagement

Data voluntarily provided by the Big 3 retailers shows that only around 20 to 40 per cent of customers that have been with them for more than three-to-four years, are on discount levels similar to those customers that have just joined. This suggests a consumer tendency to disengage with the market.

To the extent there is disengagement during a period of a significant price increase, it results in these customers facing much higher bills. In last year's Review we noted that one retailer called this disengagement, or customer inertia, a 'laziness tax'.

The Big 3 retailers generally appear to be the beneficiaries of customer inertia, as the limited data available from Tier 2 retailers did not show an equivalent link between the discount available to a consumer and their length of tenure with a retailer.

Consumers shopping around, the benefits and comparison services

Other consumers were motivated to seek a better deal. Indeed, switching rates increased in response to the recent price increases, as over the past year:

- over a quarter of customers in South East Queensland and Victoria changed electricity retailer
- 19 per cent of consumers in Victoria and 14 per cent in New South Wales changed gas retailer.

The annual bill savings from switching retailer are potentially significant. Analysis of the representative consumer in each jurisdiction shows that a residential customer moving from a median standing offer to the cheapest market offer can, per year:

- on electricity, save \$832 in South Australia, \$574 in Victoria, \$504 in South East Queensland, \$365 in New South Wales, and \$273 in the Australian Capital Territory
- on gas, save \$716 in Victoria, \$192 in the Australian Capital Territory, \$185 in New South Wales, \$161 in South Australia and \$31 in South East Queensland.

Despite the significant increase in retail prices, especially in electricity, the savings realised by changing plans have generally increased from last year across all NEM-based jurisdictions.

Consumers that are motivated to seek a better deal face the challenge of navigating the complexity of the retailers' pricing offers. This has led to more consumers turning to comparison services such as iSelect, Compare the Market and Electricity Wizard to help them with their choice. The number of these comparison sites has increased, the Review identifying 19 commercial energy comparison websites. There are also two Government run comparison websites, Energy Made Easy and Victorian Energy Compare that assess all generally available offers in the market.

Commercial comparison services simplify the retailer and plan choice for consumers, and assist them in changing plan or retailers. However, the sites lack transparency in how many retailers and offers they compare. Some compare as few as four retailers. Consequently, they may recommend a plan that is not the best available in the market, given a customer's circumstances. As the sites charge retailers for the channel-to-market service they provide, these costs are also likely to flow into retail prices.

The Government comparison websites have much broader coverage than the commercial sites, and do not charge commissions. Awareness of these Government sites though has historically been low. The Victorian Government recently announced it would pay customers \$50 to register with the Victorian Energy Compare website. The Australian Energy Regulator's (AER's) site, Energy Made Easy, also recently received additional funding to make its website more user-friendly. The AER did not receive additional funding to promote consumer awareness of the service.

Consumers are investing in solar PV systems, batteries, and energy management products and services

In contrast to the retail electricity price rises in the past year, there were continued reductions in the cost of solar PV systems and batteries. This cost reduction, and the absence of retailer-led pricing innovation, has driven consumers to invest in these distributed energy resource technologies to gain more control over their energy usage and bills.

There were:

- 154,877 residential solar PV installations in 2017, an increase of 25 per cent from 2016, which added 938MW of solar capacity to the NEM
- battery installations increased by around 275 per cent in 2017 from a low base, and consumer interest in household batteries increased considerably.

New energy service providers, like Wattwatchers and Reposit also provide analytics and products to improve the value households receive from investments in solar PV systems and batteries.

An assessment of purely the financial benefits of an investment in solar PV or a combined solar PV and battery system, (i.e. not accounting for 'non-market values' such as 'positive feelings' from reducing dependence on retailer-purchased electricity), shows that with the small-scale renewable energy scheme:

- solar PV systems are attractive in a broad range of consumer circumstances, as they deliver a short-term payback and longer-term benefits
- batteries require considerable cost reductions or improvement to battery life to be as financially attractive as solar PV, and large batteries are less financially viable.

Consumers that have recently installed solar generally have high levels of satisfaction. Between 2014 and 2016, 85 per cent of consumers were satisfied with the installation process and in 2016, 80 per cent of customers agreed that their system offered good value for money.

While there are potential financial benefits to households of investments in solar PV systems, the Commission is aware that not all consumers are able to make such investments – for example, renters, apartment dwellers and people without the requisite financial capability. For these people the availability of suitable energy offers and adequate consumer protections are crucial.

There are also information challenges and potentially different consumer protections for distributed energy resource customers. If an electricity retailer supplies a solar PV system, the customer will likely be covered by a jurisdictional ombudsman scheme. If

the system is supplied by another non-retailer provider, then protections in the National Electricity Customer Framework (NECF) will generally not apply. The consumer will instead have to rely on Australian Consumer Law and jurisdictional fair trading offices. Further, Energy Consumers Australia is working with industry to develop a code of conduct for new energy products and services that may provide some additional protections for consumer.

The need to protect vulnerable customers

Vulnerable consumers have been particularly affected by recent increases in energy prices.

The number of customers in retailer hardship programs has remained relatively stable for electricity and gas between 2015/16 and 2016/17. Over the same period, the number of customers being excluded from these programs, often for non-payment, increased by 32 per cent. In recognition that these are important safety-net protections, regulatory work to strengthen schemes is underway.

In Victoria, the customer payment difficulty framework was introduced with the reforms to come into effect from 1 January 2019. Additionally, the AEMC is currently considering a rule change that proposes to strengthen retailer obligations so that hardship customers are given adequate support.

The refreshed hardship arrangements should work with the range of complementary jurisdictional concession schemes to support customers with their energy affordability.

The small business experience of the retail energy market

Small businesses have been significantly affected by the recent increases in energy prices. They tend to pay more per-unit of energy and consume energy in considerably higher levels than residential consumers, but do not have the same hardship or payment plan protections available to them.

Research into small business consumers revealed that they are very different in terms of size, turnover and energy use, and this materially affects how they react to changes in market conditions. Over the past year, this has led to a growing divide between how different types of businesses engage with the retail energy market. In particular

- businesses with more employees (generally above 100) are more aware of their energy consumption and management options, and are more confident in finding the right information to choose plans
- smaller businesses are less confident in finding the right information, have lower levels of trust in retail markets and are less likely to invest in new technology.

The survey also revealed that:

- over the past year, 36 per cent of small business customers were surprised by the increase in their energy bill, and of those:
 - approximately half absorbed the price rise
 - approximately half made efforts to reduce their consumption
 - 17 per cent looked to change retailers

- retailers have been more active in approaching businesses, with a 30 per cent increase in approaches from the previous year, and 90 per cent of small businesses were approached by a call from a retailer, an increase of 33 per cent from the previous year
- for the first time since 2014, small business customers rated the value for money of the Big 3 retailers above the Tier 2 retailers, as Tier 2 retailers experienced a 13 per cent decrease in satisfaction with value for money
- small business owners from a cultural or linguistically diverse background saw greater value in renewable energy and access to new technologies that allow for increased energy management than other businesses owners.

Improving consumer empowerment

There are signs that even beyond investing in distributed energy resources, consumers are becoming more empowered. An empowered consumer should be able to easily navigate the retail energy market, and use other tools and technology to reduce their dependence on the market if dissatisfied.

Consumer empowerment can be further advanced through:

- Facilitating improved ease of access to consumption data. Smart meters, improved access to consumption data and software platforms with smart comparison algorithms, can assist consumers with better understanding their consumption profile and finding the best retail offering for their circumstances.
- Facilitating improved access to enabling technology that provide consumers more control over their energy consumption and bills, such as distributed energy resources.
- Improved education of consumers. Education plays an important role for consumers, in assisting them to understanding their bills, options to address them and help dispel misconceptions in the market.

Such advancement will enable consumers to make better decisions and apply additional pressure on retailers to improve their pricing practices and product and service offerings.

Current reforms to the retail energy market

Over the past year a number of reforms to the retail energy market have been put in place, are progressing, or being considered. Many of these are designed to improve the experience of consumers in the energy market and reduce bills.

Since April 2017, there have been at least 25 new rules, policies and programs introduced by governments and market bodies that affect energy consumers. Included in this are two rule changes the AEMC has recently completed, which focus on assisting consumers in dealing with poor pricing behaviour by retailers, namely:

- Ensuring retailers notify consumers in advance of any changes to their benefits. This aims to stop the practice where customers were coming off fixed term

benefits under their contracts, but received no notification of the benefit being reduced or removed.

- Prohibiting retailers from offering discounts on market rates that were higher than the standing offer rate. This was to restrict retailers from including discounts in market retail contracts where customers would definitely be worse off under the undiscounted market offer than under the standing offer. This was accompanied by a joint Commission-AER recommendation to the COAG Energy Council to make retailers' non-compliance with the AER's Retail Pricing Information Guidelines' provisions on presentation of market and standing offer prices subject to a civil penalty under the National Energy Retail Law.

Additionally, the AER's updated Retail Pricing Information Guidelines have been designed to assist consumers with comparing offers. The new guidelines that come into effect in August 2018 require retailers to calculate annual bill amounts for three different consumption levels – low, medium and high.

The benefits to consumers from these changes will take some time to take effect. The specific and collective impacts may not be able to be assessed in the near term. This needs to be taken into account so any possible future interventions in the market are conducted in a coordinated manner that considers broader reforms. This is especially the case given the ACCC is expected to recommend additional actions to address energy affordability when it reports in mid-2018.

Any significant changes that are being considered should have the costs and benefits properly assessed, and be compared against alternative options that facilitate consumer empowerment and address specific poor industry practices. The Commission's view is that retail price re-regulation is not justified in deregulated jurisdictions solely because competition is not delivering the expected benefits to consumers at this point in time.

Any assessment of price re-regulation must assess the likely:

- Adverse impact on non-vertically integrated retailers that would be unable to absorb a potential margin squeeze between wholesale costs and regulated retail prices. Some of these retailers have been the most active in innovating in terms of pricing, tariff and value-added service offerings for consumers.
- Reduction in competitive choice, and dampened levels of innovation and customer service by incentivising exit of existing retailers and acting as a disincentive to potential new entrants.
- Distortion to the developing competitive dynamic between retailer-supplied electricity and customer options to invest in distributed energy resources.

Currently, there are a number of factors that may lead to fundamental changes in the energy markets and competitive market dynamics. Smart meters, falling solar and battery costs, energy management software, smart appliances, home automation and low financing costs all provide new ways for customers to have greater control over their electricity consumption, and their bills. These developments need time to gain consumer acceptance and achieve broad take-up. Price re-regulation could adversely undermine this development path, and may slow, delay, or even destroy these consumer benefits.

Recommendations

Protecting consumers

The Commission considers aspects of the National Energy Consumer Framework (NECF) require review, as evidenced by the number of recent retailer-related rule changes, and given consumer protections do not apply uniformly depending on the energy supply or supplier. As such, the Commission recommends:

1. **Taking into account any voluntary codes that have been developed by industry and the ECA to protect consumers receiving services from new energy service providers, the AEMC will assess whether changes to the NECF are also required to protect these consumers.** The work will commence in March 2019, unless otherwise advised by the COAG Energy Council, and will take account of the findings of the review into embedded networks and stand-alone power systems.
2. **The AEMC to assess how retailers support customers in financial difficulty, unless advised otherwise by the COAG Energy Council by January 2019.** The review would look at the support options retailers provide commercially, and how these operate with required hardship provisions. The review would benchmark and identify best practices.

Enabling consumers

To improve the ability of consumers to find the best retailer and energy plan for their circumstances, the Commission recommends the following improvements to comparison services:

3. **Retailers and comparison service providers establish an industry code of conduct for energy comparison sites and obtain ACCC authorisation for the code if necessary.** The code should provide consumers with improved transparency about the commercial relationship between retailers and the site, and on what retailers and offers are being compared. It should also ensure consumers receive a like-for-like comparison. The code development and any authorisation process should be funded by industry and involve representatives from consumers and other affected stakeholder groups. Failing the development of an effective code, regulatory measures may be considered.
4. **All comparison websites should display, in a prominent location the number of retailers and plans represented on their site as a proportion of all retailers and plans available in the consumer's distribution area.** This would let consumers know the market coverage of the comparison service, and provide some perspective on whether the recommended deal is likely to be the best for their circumstances.

Improving market transparency

To improve the ability of policy and regulatory agencies to understand the market and the market circumstances of consumers, the Commission recommends:

5. **The AER to separately report on customer numbers, switching rates and contract type for both residential and small businesses.** This will improve understanding of the different segments.
6. **The AEMC will work with industry to make data on over-the-counter electricity contracts available to the market in a form that enhances transparency of the wholesale cost of energy.** This work will be done in conjunction with any proposed mechanism that would give visibility of over-the-counter contracts in the National Energy Guarantee work program.

Summary of key findings

The summary of the key findings in each chapter of the report is outlined below.

Retail market environment

- After three years of stable prices and improving customer satisfaction, recent retail energy price increases have led to sharp declines in consumer sentiment.
- Retail competition and price deregulation have brought some benefits to consumers, but the market is currently not delivering the desired outcomes for consumers. Improvements can be achieved through better retailer practices, the further development of competition and, where necessary, targeted and coordinated interventions.
- There have been one-off reviews of retail energy markets by the Victorian and Commonwealth Governments. Each jurisdiction has also launched a range of new policies, programs and regulations to improve how consumers interact with the market, and reduce bills.
 - From April 2017 to May 2018 there have been at least 25 regulatory and policy changes affecting energy consumers, including five rule change requests from the Commonwealth.
- While retailers cannot directly control increases in wholesale costs, they choose their retail pricing structures and marketing. Consumers have indicated that they find the complex pricing in retail energy markets confusing. This has led to decreased engagement compared to other competitive markets.
- Targeted interventions are more appropriate than price re-regulation, which is likely to lead to:
 - adverse effects on stand-alone retailers
 - reductions in competitive choice, decreased customer service, and dampened levels of innovation
 - distorting the competitive dynamic evolving between retailer-supplied electricity and customer options to invest in distributed energy resources.

Retail energy market structure

Electricity

- There are 33 retail brands active in the NEM, with two new brands entering and one brand exiting the market.
- Market concentration of retailers in 2017 decreased in all NEM jurisdictions.
- Since 2010, the market share of Tier 2 retailers increased in all jurisdictions except the Australian Capital Territory, with increases ranging from an 8.8 per cent in South East Queensland to 16.4 per cent in Victoria.
- Market share of Big 3 retailers is generally lower in markets where deregulation has been in place longer. However, Big 3 market share still remains over 75 per cent in most jurisdictions.
- Barriers to entry or expansion identified by retailers were win-backs and wholesale contract market liquidity. Retailers noted that increasing areas of concern are:
 - jurisdictions moving further away from regulatory consistency - e.g. Victoria's new payment difficulty framework
 - higher wholesale costs and lower wholesale contract market liquidity, especially with the retirement of Hazelwood
 - costs from an uncertain political and regulatory environment
 - third-party comparator services have become an increasingly important channel to market, but raise acquisition costs for larger retailers.
- Economies of scale and scope were cited as important for unit cost reduction and innovation. Retailers see increased benefit from vertical integration as a result of difficulties accessing affordable wholesale contracts.

Gas

- There are 16 retail brands active in the gas market, with two new brands entering the market.
- Short-term changes in retailers' market shares were minor, and the share of Tier 2 retailers increased in all jurisdictions, except Tasmania.
- Market concentration continues to decline, with the exception of Tasmania, where it has increased since 2015.
- Several retailers noted that access to, and the high price of, gas commodities and transport are the main factors affecting competition going forward.

Retailer behaviour and pricing

- Price competition using conditional discounts remains the predominant form of competition in retail energy markets.
- As discounts are not from a standard base across retailers, high discounts do not necessarily mean lower bills. Conditional discounts also means significant

penalties if conditions are not met. Victoria has the highest discount, with a pay on time discount up to 47 per cent off usage rates.

- There has been limited pricing tariff product innovation but some emerging simplified offers such as zero discount, fixed price and pre-paid products.
- After the price increases in 1 July 2017 and 1 January 2018, the annual bill for a representative consumer on a median market offer increased for electricity and gas across all jurisdictions, except South East Queensland:
 - the residential electricity bill increased the most in South Australia by \$316 and decreased in South East Queensland by \$70.
 - the residential gas bill increased most in the Australian Capital Territory by \$192 and the least in South East Queensland by \$14.
 - the business electricity bill increased most in the Australian Capital Territory by 28 per cent, and the least in Tasmania and South East Queensland by 5 per cent.
- Price dispersion, cited as a sign of effective competition, increased in 2018. However, dispersion in retail energy markets is driven by discounting, not optimal tariffs for customers.
- Businesses tend to pay more than residential consumers for each unit of electricity consumed, and tend to consume higher quantities of electricity. Businesses faced larger price increases than residential consumers.

Residential customer behaviour and experience

- Residential consumer confidence in the energy market decreased significantly in 2018, with large retail price increases, and heightened media and political interest in the sector.
- The ECA *Energy Consumer Sentiment Survey* showed in April 2018:
 - 58 per cent of consumers were confident in their ability to make good choices (down nine per cent from April 2017)
 - 50 per cent of consumers were confident in the availability of easily understood information (down seven per cent from April 2017)
 - only 25 per cent of consumers were confident the market is working in their long-term interests (down 10 per cent from April 2017).
- Consumer trust was 39 per cent in 2018, a reduction from 50 per cent in 2017, and electricity is the expenditure item of most concern to households.
- There has been an increase in consumers changing energy retailer in the last year in all mainland jurisdictions:
 - Victoria and Queensland had the highest electricity switching rates of 27 and 25 per cent respectively
 - Victoria and New South Wales had the highest gas switching rates of 19 and 14 per cent respectively
 - 23 per cent of consumers intend to switch retailers in the next year.

- Commercial comparator websites are being used more often by consumers. These sites can be useful, but can lack transparency about the proportion of offers covered and commissions paid by retailers. The recommended deal may not be the best for a consumer's circumstances.
- There are market developments occurring that may change retailer behaviour and consumer outcomes in the near future:
 - smart meters, improved access to consumer data and smart comparison algorithms will simplify the task of choosing a retailer and plan, and challenge existing discounting practices
 - inquiries and regulatory processes underway will improve consumers' ability to engage in the market and influence retailer behaviour.
- While retailers have been slow to innovate and improve services, there is increasing evidence that where consumers are not satisfied with retailer offerings, they are acting by switching retailers or investing in solar PV and batteries.

Small and medium business consumer behaviour and experience

- Businesses are significantly different in terms of size, turnover and energy intensity. Accordingly, the way they behave and react to market conditions varies materially.
- Businesses faced higher price rises and have higher consumption on average, than residential consumers. Their energy costs have risen materially in the past year, with 36 per cent experiencing bill shock. Of those businesses:
 - approximately half absorbed the price rise
 - approximately half made efforts to reduce their consumption
 - 17 per cent looked to change retailers.
- The number of businesses receiving discounts and rewards from their gas retailer increased in the past year. They were more likely to receive this from the Big 3 than Tier 2 retailers, a reversal from previous years.
- Retailers have been more active in approaching businesses in 2018 with a 30 per cent increase from 2017. In 2018, 90 per cent of businesses were approached by a call from a retailer, up from 57 per cent in 2017.
- There is an identifiable polarisation among business consumers when:
 - comparing offers, with 34 per cent (a 19 per cent increase) of consumers that found it 'very easy' to compare deals, while 22 per cent (a 14 per cent increase) found it 'fairly difficult' to compare offers
 - switching, with a 12 per cent increase in businesses that changed retailer, and a 37 per cent increase in businesses who did not investigate switching options in the past 12 months.
- Over half of the surveyed businesses indicated they would be interested in changing, or are currently looking to change energy providers. Businesses that reported switching in the past five years were generally satisfied with the outcome and process.

- Anecdotal evidence suggests timeframes for businesses to accept bespoke electricity quotes has reduced considerably due to increased volatility in the wholesale market. This makes the task of choosing the best deal harder.

New retail energy products and services

- With energy price rises, and material reductions in the cost of solar PV, batteries and energy management services, consumers are increasingly recognising the opportunities distributed energy resources (DER) provide in managing energy bills, particularly electricity.
- Solar PV is a well-established technology. In 2017, 23 to 47 per cent of households surveyed across jurisdictions had solar panels, and there was a 25 per cent increase in solar PV installations across the NEM.
- Batteries are a less mature technology. Penetration in 2017 remained low at two to five per cent of households surveyed, but 25 to 46 per cent indicated an interest in adopting batteries in the next 12 months. The International Energy Agency estimates costs reduced by 40 per cent from 2010 to 2017 and significant cost reductions are projected in future.
- In addition to multiple complex retail energy offers and varying protections under the NECF and ombudsman schemes, DER customers also:
 - have to choose from unfamiliar products and brands
 - have experienced a decrease in the cost of DER
 - are generally satisfied with solar system performance
 - must generally rely on Australian Consumer Law and jurisdictional fair trading offices for consumer protections.
- The Commission modelled the potential benefits a range of consumers may achieve if they invest in solar PV and batteries. Inclusive of payments under the Small-scale Renewable Energy Scheme, the analysis found:
 - investments in solar PV systems provide consumers with financial benefit, even if they do not consume any of the electricity generated
 - time-of-use tariffs provided better financial outcomes for solar than flat rate tariffs
 - batteries are generally not a financial investment for consumers, and around 80 per cent cost reductions are required to make these as financially attractive as solar PV systems.

Outcomes for residential consumers

- With large electricity retail price increases over 2017, there has also been significant decreases in electricity consumer satisfaction.
- Responses to the ECA's *Energy Consumer Sentiment Survey* in April 2018 show that compared with April 2017:
 - 43 per cent of consumers were satisfied with the level of energy market competition (a six per cent decrease)

- 44 and 60 per cent of electricity and gas consumers respectively were satisfied with their value for money (a four per cent decrease for both)
- 61 and 66 per cent of electricity and gas consumers respectively were satisfied with the level of customer service from their energy retailer.
- Consumers remain less satisfied with the value for money in the electricity and gas sectors when compared with banking, mobile phones, internet, water and insurance services. Electricity and gas were the only sectors to experience a decrease in satisfaction from April 2017 to April 2018.
- Customer complaints data relating to 2016/17 decreased (which is a reversal of the previous trend), but this does not capture the impact of the recent large electricity price increases.
 - complaints to energy retailers decreased by 27 per cent
 - complaints to the energy ombudsmen generally decreased, although first quarter 2017/18 data suggests complaints are rising.
- In relation to consumers on hardship programs, in 2016/17:
 - there was a small increase in all jurisdictions, except South Australia
 - the level of debt on entry increased in most jurisdictions for electricity and in all jurisdictions for gas
 - the proportion of electricity customers successfully exiting programs decreased by 10 per cent in electricity and rose slightly in gas
 - the proportion of consumers excluded from hardship programs increased by 10 per cent for both gas and electricity customers.
- The AEMC is now considering a rule change request from the AER to strengthen protections for residential customers in financial hardship.
- Disconnections for electricity and gas consumers decreased in 2016/17, but the AER has reported an increase in the first quarter of 2017/18.

Outcomes for small and medium businesses

- Satisfaction of small and medium businesses with energy market outcomes decreased in the last year, driven by increases in electricity prices. A number of satisfaction measures are at the lowest levels since surveys commenced in 2014.
- The Small Business survey showed that in February 2018 (compared to January 2017) satisfaction:
 - in customer choice with energy companies and plans was 53 per cent (a decrease of eight per cent), with jurisdictions with more retailers having higher satisfaction.
 - with current electricity providers was 53 per cent (a decrease of 17), while this has been decreasing since 2016, it is now at the lowest level since 2014
 - with gas retailers has remained relatively steady over the past five years between 64 and 72 per cent

- with the level of customer service from electricity retailers was 57 per cent (a decline of eight per cent)
- with value for money for electricity has remained relatively steady since 2016 between 57 and 47 per cent, but decreased slightly by four per cent in the last year
- with the value for money for gas was 61 per cent which was an increase of 18 per cent since 2016.
- For the first time since surveys commenced, consumers rated the value for money from Big 3 retailers above Tier 2 retailers. Tier 2 retailers experienced a decrease in satisfaction in their value for money rating of 13 per cent. It may reflect Tier 2 retailers have been more adversely affected by increases in wholesale costs.
- Disconnections of business customers decreased across the NEM by 28 per cent for electricity, and 16 per cent for gas.

Outcomes for retailers

- Small customer (residential and small business) data from the Big 3 retailers shows in the electricity market from 2015/16 to 2016/17 across Victoria, New South Wales, South Australia, and South East Queensland:
 - average prices of the Big 3 customers increased by eight per cent
 - the average cost of goods sold increased by seven per cent
 - gross margins (revenue minus the cost of goods sold) increased by ten per cent on a cents per kWh basis and by 12 per cent on a dollar per customer basis, and the largest increase in gross margin occurred in South Australia.
- Gross margins across Victoria, New South Wales, South Australia, and South East Queensland on a cents per kWh and dollar per customer basis in 2016/17 show:
 - on a cents per kWh basis are highest in Victoria at 6 cents per kWh. followed by New South Wales at 5.5 cents per kWh
 - on a dollars per customer basis are highest in New South Wales at \$386 per customer per annum, followed by Victoria at \$371 per customer per annum
 - any comparisons are affected by the volume of electricity consumed, in particular, Victorian consumers on average have lower electricity consumption levels than New South Wales consumers.
- These results are prior to the price increases in July 2017 and January 2018. If margins were to be sustained or increase further in 2017/18, then with the observed increases in wholesale costs, retail prices and the largely inelastic nature of electricity demand, it would highlight to the Commission an absence of effective competitive rivalry in the electricity sector.
- Any actions to limit retail margins through re-regulation of prices must carefully consider how decreasing margins will affect their ability to invest in innovation at a time of rapid change in the market.
- The ACCC is expected to examine retail margins and other financial metrics in depth as part of its retail electricity pricing inquiry.

Table 1: Summary of trends for measures and indicators – electricity

	Measure	Trend	Comment
Structure	Barriers to entry, expansion & exit	Stable	<ul style="list-style-type: none"> - Retailers reported the lack of wholesale contract liquidity is a barrier to expansion which is most acute in South Australia - Claims that regulatory divergence and increased intervention are increasing retail costs
	Market concentration/ share	Stable / improving	<ul style="list-style-type: none"> - ↓ market concentration and share of Big 3 retailers - largest change in South East Queensland - One new retailer (Energy Locals) and one new brand (amaysim Energy) entered - One retailer (Online Power and Gas) exited
Market Conduct	Consumer activity & confidence	Improving / mixed	<ul style="list-style-type: none"> - ↑ electricity switching rates – Victoria the highest (27%) and ACT one of the lowest (6%) - 20 - 26% of residential consumers likely to switch retailer or plan in the next 12 months - ↓ 11% residential confidence in ability to make good decisions in energy market - ↓ 5% businesses confidence in finding the right information to choose an energy plan
	Retail pricing strategy	Stable	<ul style="list-style-type: none"> - Discounts remain predominant form of pricing competition, with limited tariff innovation - Zero per cent and guaranteed discounts are being offered, but largely at the periphery
	Retail energy prices	Increased	<ul style="list-style-type: none"> - Residential electricity bills ↑ 9-22% (\$110 - \$316), except South East Queensland ↓ 5% (\$70) - Business electricity bills ↑ 5-28% (\$213 – 1,303)*
	Innovation and distributed energy services	Increased	<ul style="list-style-type: none"> - Installations of small-scale solar ↑ 25% and batteries ↑ 275% over the past year - Investments in solar are a good investment in almost all cases with payment from the SRES - Batteries at current cost levels are less financially beneficial relative to solar PV - 41 – 62% of consumers have, or are considering investing in rooftop solar systems

	Measure	Trend	Comment
Market outcomes /performance	Consumer outcomes / Satisfaction	Decrease	<ul style="list-style-type: none"> - ↓ residential satisfaction <ul style="list-style-type: none"> ○ Level of competition in energy markets ↓ 6% ○ customer service ↓ 3% ○ value for money ↓ 3% - ↓ business satisfaction <ul style="list-style-type: none"> ○ current electricity provider ↓ 17% ○ customer service ↓ 8% ○ value for money ↓ 4% ○ choice of energy company or plan ↓ 9%
	Complaints	Improving	<ul style="list-style-type: none"> - ↓ 27% customer complaints to energy retailers in 2016/17 - ↓ 23% electricity complaints to the ombudsmen on average, except Tasmania (↑ 26%) - Indicative data shows complaints started to ↑ Q1 2017/18
	Retailer margins	Increase	<ul style="list-style-type: none"> - ↑ 10% Big 3 gross margins (2015-16 - 2016-17, per kWh basis), Victoria highest, South East Queensland lowest

*Bill estimates are based on indicative consumption profiles in each jurisdiction. Note, there are large differences in business consumption profiles which will affect the bill estimates.

Table 2: Summary of trends measures and indicators – gas

	Measure	Trend	Comment
Structure	Barriers to entry, expansion & exit	Stable	<ul style="list-style-type: none"> - Access to reasonably priced gas commodity and transport a barrier for entry/expansion - The Prime Minister's roundtable improved access to gas
	Market concentration/share	Stable	<ul style="list-style-type: none"> - One new retailer (Sumo Power) and one new brand (amaysim Energy) entered - 2015 - 2017 market share changes were relatively minor, except in NSW and the ACT
Market Conduct	Consumer activity / confidence	Improving / mixed	<ul style="list-style-type: none"> - ↑ gas switching rates in all jurisdictions after falling in 2016 - Average gas switching rate 15%, Victoria highest at 18%, NSW ↑ from 10% to 14% - ↓ 11% residential confidence in ability to make good decisions in energy market - ↓ 5% businesses confidence in finding the right information to choose an energy plan
	Retail pricing strategy	Stable	<ul style="list-style-type: none"> - Discounts remain predominant form of pricing competition, limited tariff innovation
	Retail energy prices	Increase	<ul style="list-style-type: none"> - Residential gas bills ↑ 2-17% (\$14 - \$192) - The proportion of customers on market offers increased
Market outcomes /performance	Consumer outcomes / Satisfaction	Decrease	<ul style="list-style-type: none"> - ↓ residential satisfaction <ul style="list-style-type: none"> o level of competition in energy markets ↓ 6% o customer service ↓ 1% o value for money ↓ 4% - ↓ business satisfaction <ul style="list-style-type: none"> o choice of energy companies and plans ↓ 9% o customer service ↓ 4% o value for money ↑ 6% o current gas provider ↓ 6%
	Complaints	Improving	<ul style="list-style-type: none"> - ↓ 27% customer complaints to energy retailers in 2016/17 - ↓ 22% gas complaints to the energy ombudsmen on average

Note: For the review the Commission did not assess retail margins for gas retailers.

Contents

1	Introduction and scope of the review	1
1.1	Purpose.....	1
1.2	Market definition	1
1.3	Assessment framework	1
1.4	Specific focus areas for this year's review	2
1.5	The customer experience map.....	2
1.6	Understanding the range of data and indicators.....	3
1.7	Structure of the report	3
2	Retail market environment	4
2.1	Increased focus on energy.....	5
2.2	Exploration of the issues in energy markets	7
2.3	Consumer focussed actions in the market.....	10
2.4	Additional actions that may affect the retail market.....	14
2.5	Impact of actions in the market.....	15
3	Retail energy market structure	18
3.1	Electricity Market Structure.....	20
3.2	Retailer survey	29
3.3	Barriers to entry, expansion and exit - electricity	30
3.4	Economies of scale and scope.....	33
3.5	Wholesale contract market	34
3.6	Vertical integration - electricity	37
3.7	Other issues influencing market structure and competition - electricity	38
3.8	Jurisdictional issues	40
3.9	Gas market structure and retailer survey	42
4	Retailer behaviour and pricing.....	48
4.1	Types of offers	49
4.2	Pricing strategies and discounts.....	54
4.3	Pricing behaviour.....	65
4.4	Products and services	68
4.5	Bill outcomes for residential consumers	71
4.6	Bill outcomes for business electricity consumers	79
5	Residential customer behaviour and experience	83
5.1	Preferences of residential consumers	85
5.2	Residential consumer perceptions of the market	87

5.3	Consumer tenure and engagement	94
5.4	Consumer switching activity	97
5.5	Other bill management methods	105
5.6	Market developments that will change market conduct	106
6	Business consumer behaviour and experience.....	112
6.1	Understanding characteristics and engagement with the retail sector.....	114
6.2	Switching behaviour	118
6.3	Other bill management responses	125
6.4	Preferences and issues for different business types	126
7	New retail energy products and services.....	133
7.1	The distributed energy resources market	135
7.2	Retail competition and innovation	143
7.3	Retail competition and aggregation services	146
7.4	Customer experience with distributed energy resources	147
7.5	Electricity supply: considering distributed energy resources.....	148
7.6	Choosing product and services	148
7.7	Customer satisfaction	161
7.8	Customer protection and dispute resolution	161
8	Outcomes for residential consumers.....	164
8.1	Customer experience	166
8.2	Residential consumer satisfaction.....	166
8.3	Customer complaints.....	175
8.4	Consumers in hardship and concessions.....	178
9	Outcomes for small and medium businesses	188
9.1	Small business consumer satisfaction	189
9.2	Business complaints to retailers	197
9.3	Business disconnections and hardship	198
10	Outcomes for retailers	200
10.1	Understanding retailer margins.....	201
10.2	Big 3 retailer margin analysis	203
10.3	Gross margins, pricing regulation and innovation	206
	Abbreviations.....	208
A	2018 COAG Terms of Reference	211
B	Summary of previous recommendations	212
C	List of active retailers	215
D	Distributed energy resources financial modelling.....	216

D.1	Modelling assumptions.....	216
D.2	Key findings.....	222
D.3	Modelling results - data tables	226
D.4	Modelling results- graphs	233
D.5	Sensitivity of investments to changes in retail electricity prices	237
E	Concessions and rebate information.....	238
F	Jurisdictional Summaries	251
F.1	Queensland	257
F.2	New South Wales.....	268
F.3	Australian Capital Territory	282
F.4	Victoria	292
F.5	South Australia.....	309
F.6	Tasmania	318

1 Introduction and scope of the review

1.1 Purpose

The Australian Energy Market Commission's (hereby referred to as the AEMC or the Commission) 2018 Retail Energy Competition Review assesses the state and possible future development of retail competition, and the outcomes small customers are experiencing, in the national electricity market (NEM) and gas markets.¹ Based on this assessment the review makes recommendations to enhance competition and improve consumer outcomes.

1.2 Market definition

The review covers residential and small business consumers in retail electricity and gas markets in Queensland, New South Wales, Australian Capital Territory, Victoria, South Australia and Tasmania.²

Each of the jurisdictions is considered as a single geographic market with two product markets: electricity and gas. The exception is Queensland, which is considered as two geographic and product markets: South East Queensland and regional Queensland.³

1.3 Assessment framework

The Terms of Reference for the review from the Council of Australian Governments (COAG) Energy Council specify a number of indicators that should be assessed when considering the effectiveness of competition. These are:

- independent rivalry within the market
- the ability of retailers to enter the market
- the exercise of market choice by customers
- differentiated products and services
- price and profit margins
- customer switching behaviour.

¹ The AEMC conducted jurisdiction by jurisdiction reviews from 2007 to 2013. This was in response to the 2004 commitment under the Australian Energy Market Agreement to remove retail price regulation where effective competition could be demonstrated. From 2014, following revised terms of reference from the Standing Council on Energy Resources (now the COAG Energy Council), the reviews were conducted on a NEM-wide basis. The focus of the reviews moved to the state of competition and outcomes for consumers in competitive retail energy markets.

² South Australia - Electricity 160MWh, Gas 1TJ; Australian Capital Territory - Electricity 100MWh, Gas 1TJ; New South Wales - Electricity 100MWh, Gas - 1TJ; Victoria - Electricity 40MWh, Gas 1TJ; Tasmania - Electricity 150MWh, Gas 10TJ; Queensland - Electricity 100MWh, Gas 1TJ.

³ South East Queensland and regional Queensland have significant differences that justify their treatment as separate markets. South East Queensland has approximately 1.4 million small customers in a geographic area of 25,000 square kilometres, compared to regional Queensland having about half the customer numbers in an area greater than one million square kilometres.

Consistent with the approach taken in 2017, this review considers these indicators and others within a structure-conduct-performance analysis framework. The framework assists in assessing how the structure of a market influences the conduct of participants and in turn the performance of the participants and the market as a whole. Within the framework:

- **Structure** refers to factors that govern and shape the activities within a market. These are often relatively stable over time, although that depends on the nature of the products and services on offer and the rate of technological change in the market. In this review structural factors include the level of market concentration, the level of rivalry in the market, and barriers to entry, expansion or exit.
- **Conduct** refers to the way buyers and sellers behave in the market. In this review, observable indicators of retailer conduct are their advertising, price and non-price strategies, and other forms of differentiation (including for example investments). For consumers the indicators include assessment of engagement and activity, such as switching.
- **Performance** refers to the results that firms and consumers achieve in the market. In this review, retailer margins and profitability are referenced as performance indicators, whereas for consumers the indicators include consumer satisfaction, complaints and disconnections.

1.4 Specific focus areas for this year's review

This year's review has two new areas of focus that provide a deeper understanding of specific aspects of the market. These are:

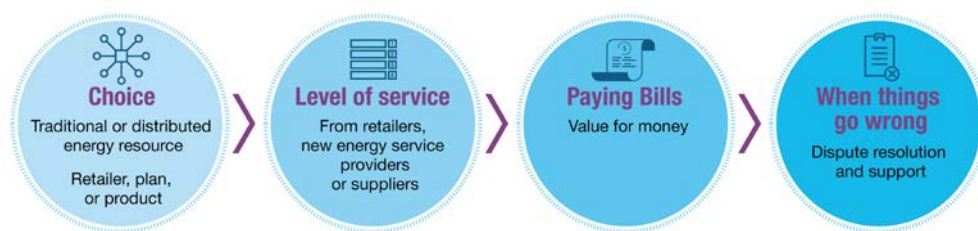
- The market experience of **small business customers**. As small businesses are a vital part of the economy, the review takes a deeper dive into how well the energy sector is meeting these customers' expectations.⁴
 - the review will continue its annual assessment of residential customer experience, this year drawing on data from Energy Consumer Australia's (ECA) Energy Consumer Sentiment Survey.
- The **consumer experience in considering distributed energy resources (DER)**. The review examines this aspect of the industry in recognition that solar, batteries, and energy management tools and services are a growing part of the market, and as a comparison to the experience of a consumer relying solely on retailer supplied electricity.

1.5 The customer experience map

As an additional perspective with which to understand consumer outcomes, the review uses a customer experience map (shown at Figure 1.1).

⁴ Each jurisdiction has a specific consumption threshold that defines whether a business is a small customer for legislative and regulatory purposes. The maximum annual consumption thresholds are: 40 MWh in Victoria; 100 MWh in Queensland, New South Wales and the Australian Capital Territory; 150 MWh in Tasmania; 160 MWh in South Australia.

Figure 1.1 **Customer experience map**



The map provides a framework for comparing the experiences of consumers sourcing their electricity from retailers and those who are using DER. There are notable differences on some of the key dimensions – of price, choice, quality and innovation – that distinguishes the two experiences.

1.6 Understanding the range of data and indicators

Each chapter of the review presents a range of data and other indicators. As in the 2017 *AEMC Retail Energy Competition Review* (the 2017 Review), the Commission notes that when assessing competition and the outcomes it delivers for consumers, The Commission bases its conclusions not on any one particular piece of information, but rather, from a more complete assessment of all the data and indicators.

It is also more useful to consider the development and effectiveness of competitive markets over time, rather than via specific point-in-time observations.

1.7 Structure of the report

The report is structured as follows:

- Chapter two describes the context within which retail markets are operating. Specifically, it identifies the reviews, market changes and market interventions that have been announced or enacted since the 2017 Review.
- Chapter three assesses the structure of the retail energy market, by examining observable market data and the perceptions of market participants.
- Chapter four examines retailer behaviour, including their pricing offers and non-price competitive positioning.
- Chapter five looks at residential consumer behaviour and experience.
- Chapter six is the equivalent for small business customers.
- Chapter seven focusses on the DER market and the consumer experience with solar PV, batteries, and energy management products and services. The implications of the DER market on the structure, conduct and performance of the broader retail market are also considered.
- Chapters eight, nine and ten summarise market performance outcomes for residential consumers, small businesses, and retailers. The outcomes for consumers are measured against a range of satisfaction metrics, and for retailers with reference to their retail margins.

2 Retail market environment

Summary of key findings

- After three years of stable prices and improving customer satisfaction, recent retail energy price increases have led to sharp declines in consumer sentiment.
- Retail competition and price deregulation have brought some benefits to consumers, but the market is currently not delivering the desired outcomes for consumers. Improvements can be achieved through better retailer practices, the further development of competition and, where necessary, targeted and coordinated interventions.
- There have been one-off reviews of retail energy markets by the Victorian and Commonwealth Governments. Each jurisdiction has also launched a range of new policies, programs and regulations to improve how consumers interact with the market, and reduce bills.
 - From April 2017 to May 2018 there have been at least 25 regulatory and policy changes affecting energy consumers, including five rule change requests from the Commonwealth.
- While retailers cannot directly control increases in wholesale costs, they choose their retail pricing structures and marketing. Consumers have indicated that they find the complex pricing in retail energy markets confusing. This has led to decreased engagement compared to other competitive markets.
- Targeted interventions are more appropriate than price re-regulation, which is likely to lead to:
 - adverse effects on stand-alone retailers
 - reductions in competitive choice, decreased customer service, and dampened levels of innovation
 - distorting the competitive dynamic evolving between retailer-supplied electricity and customer options to invest in distributed energy resources.

The past year has seen substantial changes in the environment in which retail energy markets operate. An increased focus from media and politicians has led to several reviews into the operation of the market and changes proposed in jurisdictional specific regulations, the National Energy Retail Rules (NERR) and the operation of retail businesses. This chapter provides an overview of:

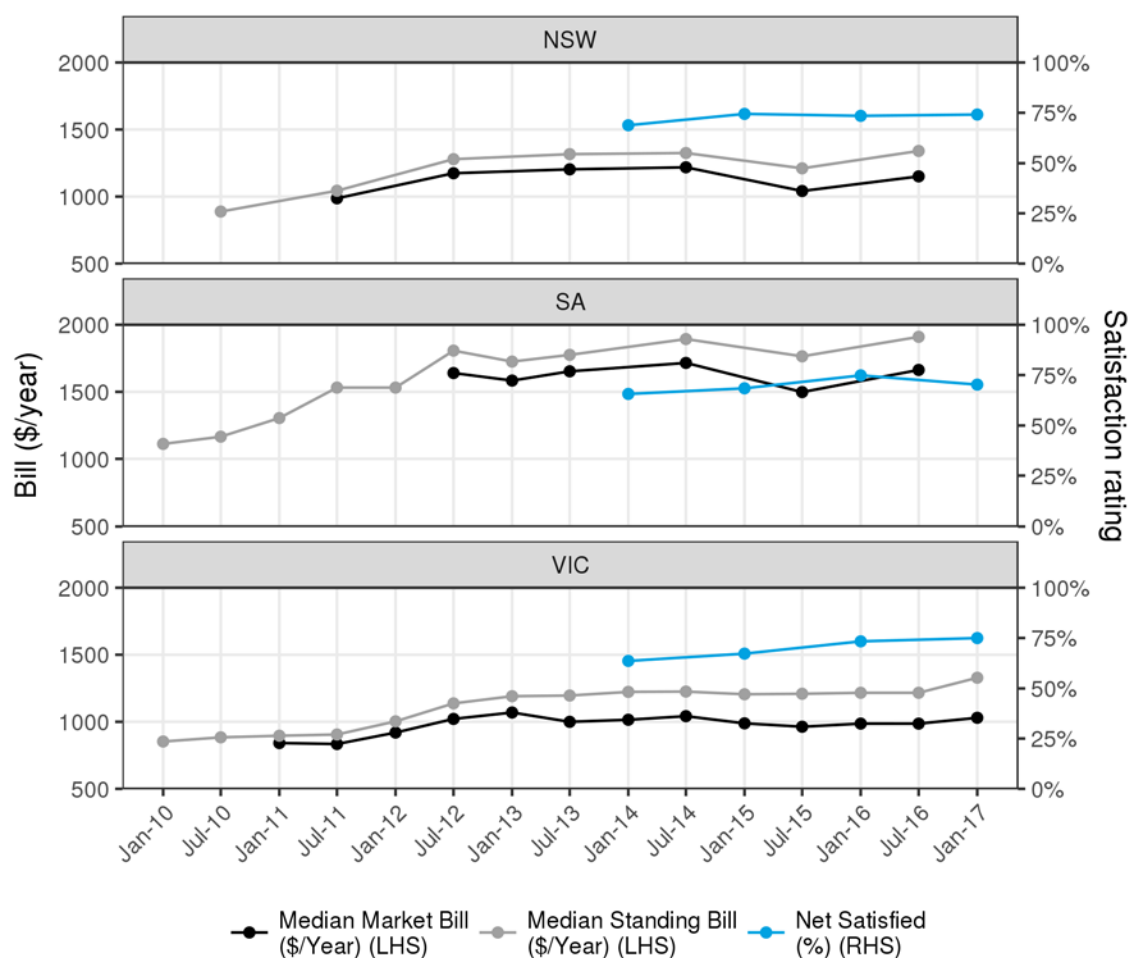
- drivers of change and focus in the sector
- exploratory analysis being conducted in retail markets
- specific actions being considered or taken by governments across the sector as a whole, and specifically in retail markets.

2.1 Increased focus on energy

Electricity, gas or a combination of both is used by every household and business. This means the recent increases in retail electricity and gas prices has affected, and continues to affect, both household and business budgets considerably.

Customer satisfaction with electricity market outcomes over the period of 2014 to 2017 has slightly improved across most jurisdictions. This improvement has generally coincided with increased competition and the introduction of price deregulation. It has also coincided with relatively stable, and in some circumstances falling, retail prices and customers' bills, as illustrated in Figure 2.1.

Figure 2.1 Retail prices and satisfaction with current retailer



Source: Newgate Research, Consumer research for the 2017 Review; The Tariff-Tracker, St Vincent de Paul Society and Alviss Consulting.

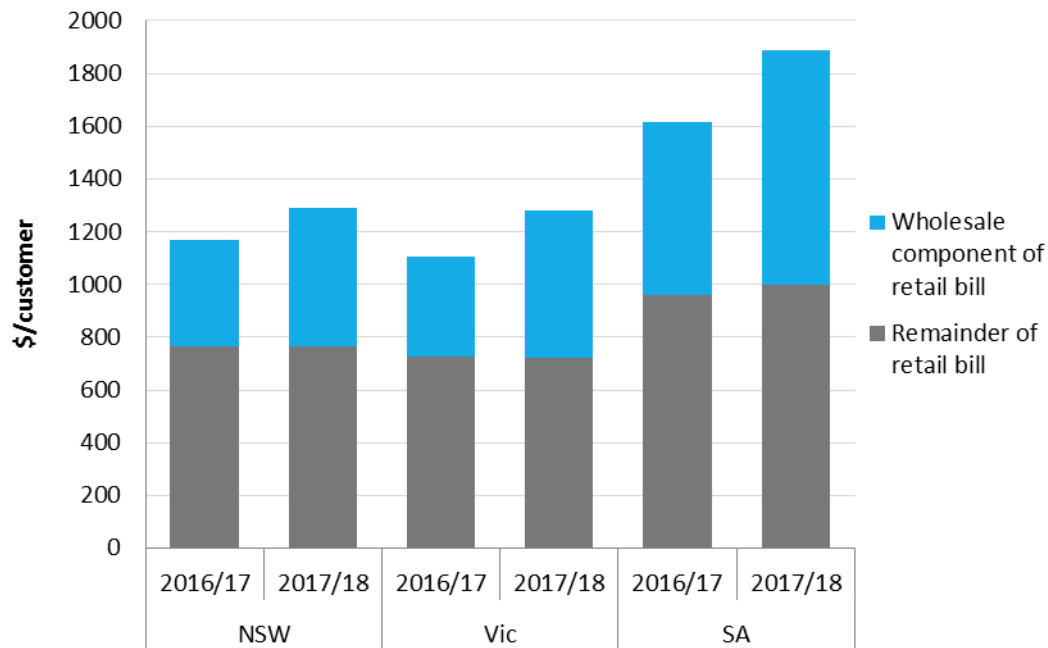
However, the AEMC's 2017 *Residential Electricity Price Trends – Final Report* highlighted between 2016/17 and 2017/18 residential electricity prices increased between two and 20 per cent across the NEM-based jurisdictions.⁵ The large price increases shown in Figure 2.2 were caused by increases in wholesale energy market costs that have been attributed to:

⁵ AEMC, 2017 *Residential Electricity Price Trends – Final Report*, 18 December 2017, Sydney, pp. 84-172.

- the retirement of the Northern power station in May 2016 and the Hazelwood power station in March 2017
- high gas prices, which affected both retail gas and electricity prices.⁶

Importantly, while the increases in wholesale costs increase the costs of retailers and hence retail energy prices, they were not directly caused by the state of competition in the retail energy sector.

Figure 2.2 Wholesale component of residential electricity bills 2016/17 and 2017/18

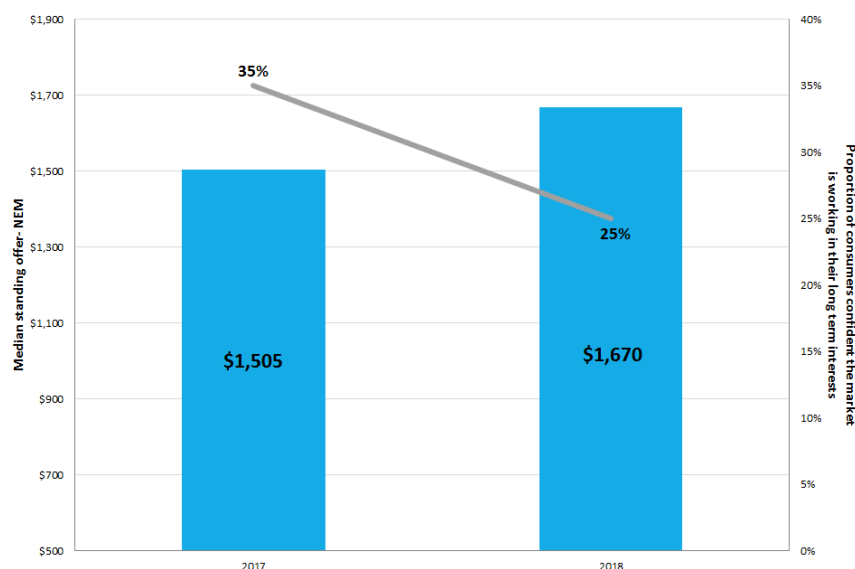


Source: AEMC 2017 *Residential Electricity Price Trends*. Note: figures for 2017/18 in Victoria are estimated. Bills based on a 'representative consumer' in each state on the median 'best' market offer.

The large retail price increases have led to increased concerns by policy makers, governments and consumers about residential and business energy affordability, and a focus on what can be done to reduce prices by all parties. Figure 2.3 shows the corresponding decreases in consumer confidence that energy markets are working in the long-term interests of consumers and the recent increase in electricity bills.

⁶ AEMC, 2017 *Residential Electricity Price Trends – Final Report*, 18 December 2017, Sydney, p. ii.

Figure 2.3 NEM median electricity bills and confidence in the market working in the long term interest of consumers



Source: AEMC analysis of data from Energy Made Easy (accessed 5 January 2017 and 21 March 2018) and Victorian Energy Compare (accessed 16 February 2017 and 20 March 2018), and ECA's Energy Consumer Sentiment Survey Wave 3 and 5, April 2017- April 2018.

The energy sector has gone through several periods of heightened attention over the past few years, including:

- claims of network 'gold plating' (2007 to 2010)
- the introduction of a carbon price (2012 to 2014)
- the Renewable Energy Target debate (2014 to 2015).

As Figure 2.1 shows, these periods have often coincided with upward trends in retail electricity prices. Despite this, the current level of attention on the sector is considered unprecedented.⁷

2.2 Exploration of the issues in energy markets

The most recent increase in the focus on the sector has led to questions about whether competitive energy markets are performing as well as they should.

Price deregulation occurs when competition in a jurisdiction is at a requisite level that the regulation of prices is no longer required; the view being that effective competition results in more efficient pricing and greater levels of tariff and product innovation, than when regulators intervene and determine prices.⁸ In the retail energy market, price deregulation of gas and electricity has been implemented in most jurisdictions. Figure 2.4 illustrates the timing of retail market reforms across each jurisdiction in the NEM. It highlights that for electricity:

- Victoria has been deregulated the longest, since 2009

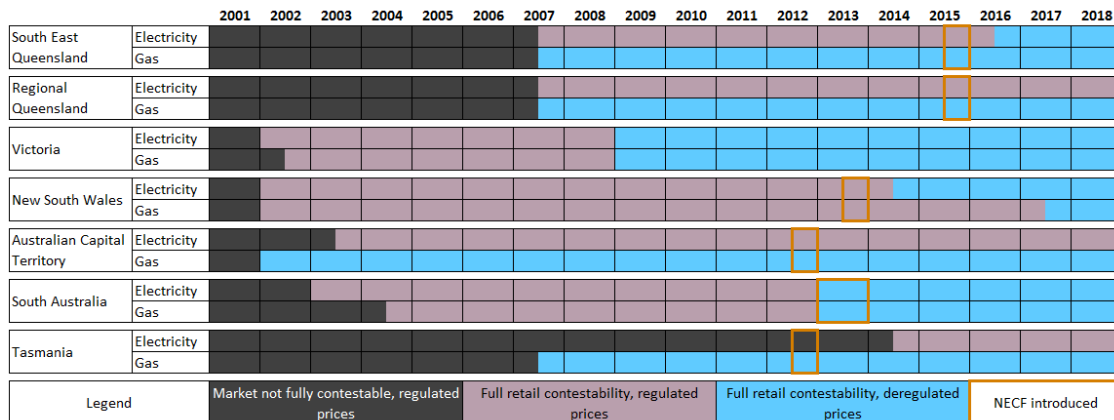
⁷ Several retailers mentioned this during interviews, discussed further in Chapter 3.

⁸ The competitive price benefits are additional to improvements in choice, customer service and levels of innovation that can also be expected in an effectively competitive market.

- South East Queensland was the most recently deregulated region, in mid-2016
- the Australian Capital Territory, Tasmania and regional Queensland have not been deregulated.

All jurisdictions have deregulated their gas markets, with New South Wales the most recently deregulated jurisdiction in mid-2017.

Figure 2.4 Progress of retail energy market reform across jurisdictions



The AEMC's Retail Energy Competition Review is one of several annual statutory reviews that report on aspects of the performance of retail markets. These include the:

- *Annual Report on Compliance & Performance of the Retail Energy Market* by the Australian Energy Regulator (AER)
- *Victorian Energy Market Report* by Victoria's Essential Services Commission (ESC)
- *Review of the performance and competitiveness of the retail electricity market in New South Wales* by the Independent Pricing and Regulatory Tribunal (IPART)
- *SEQ retail electricity market monitoring* report by the Queensland Competition Authority (QCA).

In addition to these annual reviews, the Commonwealth and Victorian Government have both commissioned one-off reviews of the performance of retail energy markets.

The Commonwealth Government requested the Australian Competition and Consumer Commission (ACCC) to conduct an inquiry into electricity supply and prices. The wide-ranging inquiry explores all aspects of the electricity supply chain from wholesale generation markets, to regulated networks, and retail markets. The preliminary report from the review was released in October 2017 and found:

- electricity affordability had become a problem across the NEM
- there was insufficient competition in generation and retail markets
- price deregulation has benefited some and hurt others, noting the market is exceptionally complex.⁹

⁹ ACCC, 2017, *Retail Electricity Pricing Inquiry: Preliminary report*, Canberra, p. 5.

The ACCC is scheduled to submit its final report to the Commonwealth Treasurer by 30 June 2018.

Additionally, the ACCC has conducted an inquiry into the operation of gas markets, predominantly focussed on the operation of the wholesale market and networks on the east coast of Australia.¹⁰ The latest report found that while there had been some short-term improvements in the state of the east coast gas market, it was still not functioning effectively.¹¹

In November 2016, the Victorian Government commissioned a bipartisan review into retail electricity and gas markets. The review was commissioned because the Government was concerned that, despite having some of the strongest indicators of competition in the NEM, Victorian energy retailers still had some of the highest margins.¹² The final report was released in August 2017 and concluded there was a market failure in the retail energy market, due to:

- the high cost of competition
- the structure of the market, with a few retailers having the bulk of customers
- confusing practices in the industry.¹³

The review made 29 recommendations under 11 categories, the most significant of which was for the abolition of standing offers, and the establishment of a basic service offering (BSO) in their place. The review suggested a BSO would be a mandatory tariff offered by retailers, where the ESC would determine the price, based on its assessment of wholesale, network and retail costs. The review also recommended the BSO should not include any costs for customer acquisition or retention.

The Victorian Government issued an interim response to the review in March 2018, accepting all recommendations except those relating to the removal of standing offers and introduction of a BSO. It suggested further consideration and research had to be conducted before it would make a decision on those recommendations.¹⁴ The Victorian Government also recommended the ESC conduct a further review into the Victorian retail energy markets, to be completed by 31 December 2019.

¹⁰ Two interim reports have been released from the inquiry in September and December 2017, with three interim reports planned to be released each year until 2020.

¹¹ ACCC, 2017, *Gas inquiry 2017-2020: Interim report*, December 2017, Canberra, p. 10.

¹² For more information, see:
www.energy.vic.gov.au/__data/assets/pdf_file/0016/44413/Terms-of-Reference-revised-27012017.pdf?_ga=2.1795634.2081731403.1525245206-414753170.1512688956.

¹³ For more information, see:
engage.vic.gov.au/application/files/7415/0267/4425/Retail_Energy_Review_-_Final_Report.pdf.

¹⁴ For more information, see:
engage.vic.gov.au/application/files/5615/2066/1838/Retail_Market_Review_Interim_Response.pdf.

2.3 Consumer focussed actions in the market

Over the past year there has been at least 25 actions taken by the Commonwealth and jurisdictional governments, and market bodies with the aim to improve consumer experience in the retail energy market. Prior to October 2017, of the more than 250 rule changes completed by the AEMC, only nine related to retail rules. However, this trend has changed with the AEMC receiving 11 retail rule change requests since October 2017.

A number of the actions carried out came from the Prime Minister's roundtable meetings with the seven largest retailers held on 9 and 30 August 2017. The key focus of the meetings was energy affordability. Of particular concern was the industry's confusing discounting practices and the fact that energy offers with large percentage discounts do not always lead to the lowest bills for consumers.¹⁵

Table 2.1 illustrates recent changes to the regulatory and operating environments. The changes are mapped to the customer experience map illustrated in Figure 1.1. It does not include any programs and policies already in place at the start of the review.

Table 2.1 Recent regulatory and policy changes

Action	Date	Description
Customer choice - traditional versus DER		
Tasmanian Energy Efficiency Loan Scheme	April 2017	The <i>Tasmanian Government</i> introduced and then renewed the energy efficiency loan scheme that provides interest free finance on a range of items including high efficiency heat pumps, solar panels, and battery storage. ¹⁶
Subsidy for the installation of rooftop solar PV in eligible low income households	December 2017	The <i>Australian Capital Territory Government</i> provided the Actsmart Solar for Low Income Program with funding of \$2 million over four years in the 2016/17 budget. Most households will receive a subsidy of up to 60 per cent (capped at \$3,000).
Rebates and no-interest loans for solar or batteries	January 2018	The <i>Queensland Government</i> has established a \$21 million fund to provide households and small businesses with no-interest loans for solar or battery installations with rebates on battery systems being introduced this year. ¹⁷
Solar and batteries installed on public housing	February 2018	The <i>South Australian Government</i> has committed to stage two of the previous government's trial virtual power plant plan. Stage two involves the installation of 1,100 solar and battery systems on housing trust properties in South Australia which then could function as a virtual power plant. ¹⁸

¹⁵ For more information see: www.pm.gov.au/media/turnbull-government-secures-better-power-deal-australian-families.

¹⁶ For more information see: <https://www.auroraenergy.com.au/teels>.

¹⁷ For more information see: www.dnrme.qld.gov.au/energy/initiatives/affordable-energy-plan.

¹⁸ For more information see: www.sa.gov.au/topics/energy-and-environment/energy-bills/solar-feed-in-payments/solar-pane

Action	Date	Description
Customer choice - Retailers, plans or products		
Upgrade of Energy Made Easy	December 2017	The <i>AER</i> received \$8 million to upgrade Energy Made Easy to improve usability and add value to consumers. ¹⁹
Notification of the end of fixed benefit period	December 2017	The <i>AEMC</i> made a rule that requires retailers to notify small energy customers in advance of changes to benefits (such as discounts) provided in their contracts. ²⁰
Removal of non-reversion policy	January 2018	The <i>Queensland Government</i> proposes to remove its non-reversion policy in regional Queensland to allow customers who leave Ergon Energy to re-join later. ²¹
Energy broker for vulnerable households	March 2018	The <i>Victorian Government</i> will partner with a community organisation to design and deliver an energy brokerage service for up to 10,000 vulnerable consumers. ²²
\$50 bonus for using Victorian Energy Compare	April 2018	The <i>Victorian Government</i> will provide a \$50 bonus for each household that uses the Victorian Energy Compare website between 1 July 2018 and 31 December 2018. ²³
Update of the Retail Pricing Information Guidelines (RPIG)	April 2018	The <i>AER</i> updated its RPIG, which specifies the way in which retailers report their energy tariffs. Changes include: <ul style="list-style-type: none"> the introduction of the Basic Plan Information document and the Detailed Plan Information document a 'comparison pricing table' with an indicative annual bill, in dollars requirements for clearer and simpler language clarifying generally available plans²⁴
Advance notice of price changes	April 2018	The <i>AEMC</i> is considering a rule change to require retailers to notify customers of price changes before they take effect. ²⁵

ls-and-battery-scheme. The former SA Government commitment was for 50,000 homes in the virtual power plant. Binding commitments that were in place for 1,100 SA Housing Trust homes (Phases 1 & 2) prior to the 2018 State Election will be honoured by the current South Australian Government

¹⁹ For more information see: www.aer.gov.au/news-release/aer-welcomes-website-funding-to-help-customers-compare-plans.

²⁰ Proposed by the Hon. Josh Frydenberg MP, Minister for the Environment and Energy, and was a result of the Prime Minister's roundtable meetings. For more information see: www.aemc.gov.au/rule-changes/notification-of-end-of-fixed-benefit-period.

²¹ For more information see: www.dnrme.qld.gov.au/energy/initiatives/affordable-energy-plan.

²² For more information see: www.premier.vic.gov.au/delivering-a-fairer-and-more-affordable-energy-market.

²³ For more information see: www.premier.vic.gov.au/helping-victorians-bust-their-energy-bills/.

²⁴ For more information see: www.aer.gov.au/retail-markets/retail-guidelines-reviews/retail-pricing-information-guidelines-2018.

Action	Date	Description
Discounts off inflated energy rates	May 2018	The <i>AEMC</i> made a rule that prohibits retailers from offering discounts on market offers that are higher than standing offers to reduce customer confusion. It recommended the addition of a civil penalty provision to the RPIG. ²⁶
Level of service		
Introduction of competition in metering	December 2017	The competition in metering rule change allows for independent competition in the provision of meters and meter data services. This could lead to innovation and better meter data services for customers. ²⁷
Estimated meter reads	May 2018	The <i>AEMC</i> is currently considering rule changes that propose to allow customers to self-read their meters in order to reduce the risk of bill shock. ²⁸
Metering installation timeframes	May 2018	The <i>AEMC</i> is considering rule changes for timeframes on the installation of new and replacement meters. ²⁹
Paying Bills		
NSW energy affordability package	September 2017	The <i>NSW Government</i> introduced its energy affordability package, which includes new rebates, the removal of retailer fees (such as late payment and exit fees), and incentives for consumers to adopt energy efficiency measures. ³⁰
Rebates for customers on standing offers	November 2017	The <i>Victorian Government</i> obtained the agreement of three large retailers to provide a rebate to some customers (including concession holders) on standing offers equivalent to market offers rates for one to two years. ³¹

²⁵ Proposed by the Hon Josh Frydenberg MP, Minister for the Environment and Energy, and the Hon. Don Harwin MLC, Minister for Energy and Utilities. For more information see: www.aemc.gov.au/rule-changes/advance-notice-price-changes.

²⁶ Proposed by the Hon. Josh Frydenberg MP, Minister for Environment and Energy. For more information see: www.aemc.gov.au/rule-changes/preventing-discounts-on-inflated-energy-rates.

²⁷ For more information see: www.aemc.gov.au/rule-changes/expanding-competition-in-metering-and-related-serv.

²⁸ Proposed by the Hon. Josh Frydenberg MP, Minister for the Environment and Energy and two private individuals. For more information, see <https://www.aemc.gov.au/rule-changes/actual-meter-read-requirements>, <https://www.aemc.gov.au/rule-changes/estimated-meter-reads-self-reads>.

²⁹ Proposed by the Hon. Josh Frydenberg MP, Minister for the Environment and Energy. For more information, see: www.aemc.gov.au/rule-changes/metering-installation-timeframes.

³⁰ For more information see: www.resourcesandenergy.nsw.gov.au/energy-consumers/energy-sources/.

³¹ For more information see: www.premier.vic.gov.au/making-things-fair-slashing-power-bills-for-victorians/.

Action	Date	Description
Negotiated rate for concession holders	December 2017	The <i>previous South Australian Government</i> conducted a tender for competitive retail electricity offers for concession customers. Origin Energy was successful. ³²
Queensland affordable energy plan	January 2018	The <i>Queensland Government</i> launched its affordable energy plan that includes more than \$300 million in initiatives to keep electricity prices below inflation over the next two years. The plan includes a range of measures. ³³
Cap on retail price increases	May 2017	The <i>Tasmanian Government</i> limited the regulated standing offer price increase to two per cent, effectively capping wholesale prices in the state. ³⁴
Standardisation of information on marketing materials and bills	March 2018	The <i>Victorian Government</i> has commissioned the ESC to review its regulatory codes to ensure retailers improve information and reduce complexity for consumers with changes to take effect from July 2019. ³⁵
Monitor/ report on competitiveness and efficiency of Victorian retail energy market	March 2018	The <i>Victorian Government</i> has commissioned the ESC to review the Victorian retail energy market and report by 31 December 2019. The ESC will develop a methodology for determining an efficiency price in the retail energy market that could be published from 1 July 2018.
Dispute resolution and customer support		
NSW Social Programs for Energy Code	December 2017	The <i>NSW Government</i> has introduced a number of new rebates as part of their NSW Social Programs for Energy Code, including a low income household rebate, family energy rebates and life support rebates. ³⁶
Payment difficulties framework	February 2018	The <i>ESC</i> made changes to the Energy Retail Code to increase the minimum debt amount for disconnection to \$300. From 1 January 2019 additional assistance will be available to consumers at risk of debt or disconnection. ³⁷
Hardship	May 2018	The <i>AEMC</i> is considering a rule change request designed to strengthen the protections for customers in hardship. ³⁸

³² For more information see: www.sa.gov.au/topics/care-and-support/financial-support/concessions/energy-bill-concessions.

³³ For more information see: www.dnrme.qld.gov.au/energy/initiatives/affordable-energy-plan.

³⁴ For more information see: www.premier.tas.gov.au/budget_2017/budget_releases/.

³⁵ For more information see: www.esc.vic.gov.au/project/energy/57108-retail-market-reform-program/.

³⁶ For more information see: www.resourcesandenergy.nsw.gov.au/energy-supply-industry/retailer-reimbursement.

³⁷ For more information see: www.esc.vic.gov.au/project/energy/35945-new-entitlements-for-customers-anticipating-or-facing-payment-difficulty/.

³⁸ The rule change was proposed by the AER. For more information see: www.aemc.gov.au/rule-changes/strengthening-protections-customers-hardship.

2.4 Additional actions that may affect the retail market

The Commonwealth and jurisdictional governments have taken or are actively considering additional actions outside of the retail market that could affect the state of competition in the retail sector, including the following in the wholesale market:

- *Snowy 2.0* - The Prime Minister commissioned a feasibility study into the expansion of the Snowy Hydro power stations. The study found the project is technically and financially feasible.³⁹ If the project goes ahead it would increase the vertical generation capacity for Red Energy/Lumo Energy by 2,000 megawatts (MW).
- *Commonwealth purchase of Snowy Hydro* - In March 2018, the Commonwealth Government purchased the New South Wales and Victorian governments' shares of Snowy Hydro, taking full control of the generation and retail (Red Energy/Lumo Energy) arms of the company.⁴⁰
- *Queensland Government direction to Stanwell Corporation* - In January 2017, the Queensland Government directed Stanwell Corporation, one of the biggest electricity generators in Queensland of which it is a majority shareholder, return Swanbank E gas-fired power station to service and to carry out strategies to place downward pressure on wholesale prices.⁴¹ These changes have likely been the driving factor for the reduction in the wholesale electricity spot price in Queensland over the past year.
- *State owned batteries* - Both the Victorian and South Australian Governments have run tenders for large-scale batteries in their respective states. The South Australian Government helped fund a 100 MW battery, which is operating next to the Hornsdale windfarm, and several smaller projects.⁴² The Victorian Government awarded its tender to two projects of 30 MW and 25 MW generation capacity.⁴³ The introduction of additional dispatchable generation may reduce prices in the wholesale market and ancillary services costs, which could have flow on benefits for retail consumers.
- *Prime Minister's Gas roundtable* - In September 2017, the Prime Minister met with three of Australia's largest gas exporters and encouraged them to guarantee additional domestic gas supply.⁴⁴ As discussed in chapter 3, some small retailers commented they were able to secure gas contracts after the meeting, which they previously could not access.

³⁹ For more information see: www.pm.gov.au/media/green-light-snowy-hydro-20

⁴⁰ For more information see: www.pm.gov.au/media/historic-snowy-deal.

⁴¹ For more information see: www.dnrme.qld.gov.au/energy/initiatives/powering-queensland.

⁴² For more information see: ourenergyplan.sa.gov.au/content/battery

⁴³ For more information see: www.energy.vic.gov.au/batteries-and-energy-storage.

⁴⁴ For more information see:
www.pm.gov.au/media/press-conference-deputy-prime-minister-and-minister-energy-and-environment

Actions taken or considered in the network sector include:

- *Removal of limited merits review* - In October 2017, the Commonwealth Government passed legislation that removed the ability of energy networks to appeal AER pricing decisions.⁴⁵ Since 2008, network businesses succeeded in 31 appeals, which increased the network component of retail electricity bills.
- *Consideration of a second interconnector to Tasmania* - In November 2017, the Commonwealth and Tasmanian Governments invested \$20 million in a business case study for a second Tasmanian interconnector. If progressed, it could result in additional generation in Tasmania and Victoria, including increasing dispatchable hydro-electric generation to support variable output from wind and solar sources. According to governments, this would place downward pressure on wholesale prices, while at the same time increasing network costs.⁴⁶
- *Rate of return guidelines* - The current rate of return guidelines are under review and due to be updated by the AER in December 2018. In addition, in April 2017, COAG Energy Council proposed legislation to make the rate of return guideline binding on network service providers.⁴⁷

2.5 Impact of actions in the market

The 2017 Review noted that retail energy markets are still maturing, across jurisdictions. Of those jurisdictions where electricity retail markets have been deregulated, none have been deregulated for more than a decade. In contrast, the telecommunications sector, in the particular the mobile market, has been deregulated for over two decades, with full retail market contestability introduced in 1997. Of particular note is that the mobile sector has not been subject to retail price regulation and is generally considered as an example of an effectively competitive market that is delivering the desired outcomes for consumers. This is despite there generally being only three mobile network operators throughout the period, and levels of retail market concentration not dissimilar to those in retail energy markets.⁴⁸

Since price deregulation in the energy sector, retail competition has brought some benefits to customers. There have been:

- improvements in customer service
- increased discounts in prices made available to consumers
- increases in product offerings

⁴⁵ For more information see:
www.environment.gov.au/minister/frydenberg/media-releases/mr20171016.html

⁴⁶ For more information see:
www.pm.gov.au/media/government-invests-business-case-second-tasmanian-interconnector.

⁴⁷ AER, *Consultation paper – Process for reviewing the rate of return guidelines*, July 2017, p. 7

⁴⁸ In 2017, 89 per cent of mobile services were supplied by three providers, and 94 per cent of National Broadband Network services were supplied by four providers. Neither sector has retail price regulation. See ACCC *Communications Sector Market Study – Final Report*, April 2018, p.i.

- a recent emergence of new value-add services and product offers by new energy services providers.

Despite this, there has also been:

- very limited tariff innovation by retailers
- for the most part, slow adoption of digital technologies to deliver product innovation
- increasing concerns about retailer discounting practices.

The most recent price rise and affordability concerns for an essential service have prompted the increased sectoral focus, differing levels of intervention by governments across regions, and calls for even greater intervention.

Discounts off energy bills provide a benefit to customers, and higher discounts are generally perceived to provide a greater benefit. However, the predominant conditional discounting model in energy, where the level of the percentage discount is typically advertised off a standing offer rate not consistently set by retailers, has led to concerns being raised in the ACCC's retail pricing inquiry, the *Victorian Government's Review of Electricity and Gas Markets* (Thwaites Review) and the AEMC's 2017 Review. There is a view the practice is contributing to increased customer confusion, makes offers by retailers harder to compare and results in lower levels of engagement in the energy sector, when compared with other competitive markets.

The ECA recently highlighted that existing discounting practices demonstrated that the competitive energy retail market was not currently working in the best interests of consumers. It considered that some level of intervention was required, stating that:

- the way that competition has developed in the retail market since deregulation has resulted in a market based on discounts that causes significant price confusion for consumers
- this confusion results in no incentive for retailers to reduce the noise (confusion) in the market
- given this market dynamic, to promote the long-term interests of consumers, it is appropriate for the AEMC as rule maker to take action to reduce the noise.⁴⁹

The Commission's view is that an effectively competitive retail energy market will deliver the best outcomes for consumers, but it is clear that the current retail energy market is not delivering the desired outcomes. The discounting practices and the level of customer confusion they are creating, demonstrates this. Any interventions in the market though must be targeted and coordinated, considering such things as the time they will have to take effect, the potential for unintended consequences, and how related policies and changes to upstream markets – e.g. the wholesale market and regulated network charges – will affect competition in the downstream retail market.

⁴⁹ Preventing discounts on inflated energy rates draft determination: ECA submission, pp. 2–3., available at : www.aemc.gov.au/sites/default/files/2018-04/Energy%20Consumers%20Australia.pdf.

The current poor public perception and the absence of meaningful change in discounting practices from energy retailers in the past year – indeed with an increase in the size of the discounts offered – creates an environment where there is the potential for calls for additional market intervention. Such interventions may take the form of further specific rule changes, and some have even suggested there is a need to consider re-regulating prices. An April 2018 Galaxy Poll of 1,000 Australians showed 83 per cent support regulating electricity prices, and the Victorian Government is currently considering the potential re-regulation of retail prices through the Thwaites Review’s recommendation for a BSO.⁵⁰

The Commission’s view is that while the retail energy market is currently not delivering the desired outcomes for consumers it can be improved through better retailer practices, the further development of competition and, where necessary, targeted and coordinated interventions. Price re-regulation of currently deregulated jurisdictions is not clearly warranted and may result in far worse outcomes for consumers. Moves towards price re-regulation would:

- Have an adverse effect on stand-alone retailers, who are currently responsible for driving much of the emerging value-add product and services competition, which enables consumers to better manage their energy bills. These innovative non-vertically integrated retailers, that the Commission highlighted in the 2017 Review are starting to compete more effectively with the larger retailers and provide benefits to consumers, would be much less able to absorb any potential margin squeeze between wholesale costs and regulated retail prices.
- Reduce competitive choice, decrease customer service, and dampen levels of innovation by incentivising the exit of existing retailers and acting as a disincentive to potential new entrants. This is at a time when the sector is at the cusp, and just starting to be in a position to realise the benefits of new technologies such as smart meters and the increased digitalisation of appliances and utilities.
- Distort the competitive dynamic evolving between retailer-supplied electricity and customer options to invest in DER, with potential reductions in the incentives and benefits to consumers from investments undertaken to manage their electricity usage.

⁵⁰ See Energy Bills and Energy Efficiency – Survey of community views by YouGov Galaxy, p 3, [www.eec.org.au/uploads/Documents/EEC%20Survey%20online%20\(FINAL\)%20.pdf](http://www.eec.org.au/uploads/Documents/EEC%20Survey%20online%20(FINAL)%20.pdf).

3 Retail energy market structure

Summary of key findings

Electricity

- There are 33 retail brands active in the NEM, with two new brands entering and one brand exiting the market.
- Market concentration of retailers in 2017 decreased in all NEM jurisdictions.
- Since 2010, the market share of Tier 2 retailers increased in all jurisdictions except the Australian Capital Territory, with increases ranging from an 8.8 per cent in South East Queensland to 16.4 per cent in Victoria.
- Market share of Big 3 retailers is generally lower in markets where deregulation has been in place longer. However, Big 3 market share still remains over 75 per cent in most jurisdictions.
- Barriers to entry or expansion identified by retailers were win-backs and wholesale contract market liquidity. Retailers noted that increasing areas of concern are:
 - jurisdictions moving further away from regulatory consistency - e.g. Victoria's new payment difficulty framework
 - higher wholesale costs and lower wholesale contract market liquidity, especially with the retirement of Hazelwood
 - costs from an uncertain political and regulatory environment
 - third-party comparator services have become an increasingly important channel to market, but raise acquisition costs for larger retailers.
- Economies of scale and scope were cited as important for unit cost reduction and innovation. Retailers see increased benefit from vertical integration as a result of difficulties accessing affordable wholesale contracts.

Gas

- There are 16 retail brands active in the gas market, with two new brands entering the market.
- Short-term changes in retailers' market shares were minor, and the share of Tier 2 retailers increased in all jurisdictions, except Tasmania.
- Market concentration continues to decline, with the exception of Tasmania, where it has increased since 2015.
- Several retailers noted that access to, and the high price of, gas commodities and transport are the main factors affecting competition going forward.

Recommendation: The AEMC will work with industry to make data on over-the-counter electricity contracts available to the market in a form that enhances transparency of the wholesale cost of energy.

This work will be done in conjunction with any proposed mechanism that would give visibility of over-the-counter contracts in the National Energy Guarantee work program.

Market structure indicators provide some perspective on the level and effectiveness of competition in retail energy markets, and in-turn the outcomes for consumers. Factors such as:

- retail market concentration
- retailer market share
- customer switching (as an indicator of competitive rivalry)
- barriers to entry or expansion
- economies of scale, scope and vertical integration
- wholesale contract market outcomes
- regulatory and political intervention into the market,

can affect the performance and conduct of retailers. This has consequential results for consumers, both over the short- and long-term. As noted in chapter 1, no single indicator is able to independently reveal whether a market is effectively competitive and delivering better outcomes for consumers. It is also not possible to look at an indicator at a single point in time to determine the effectiveness of a market. Multiple indicators need to be assessed and looked at over a period of time.

The views of retailers of different sizes can provide insight into what they believe are the factors influencing the retail market and competition.

This chapter examines a range of observable data on structure, and reports on retailer views of the structure of the retail energy market. This is based on our survey and interviews carried out in early 2018 to highlight changes in the retail market since the 2017 Review.

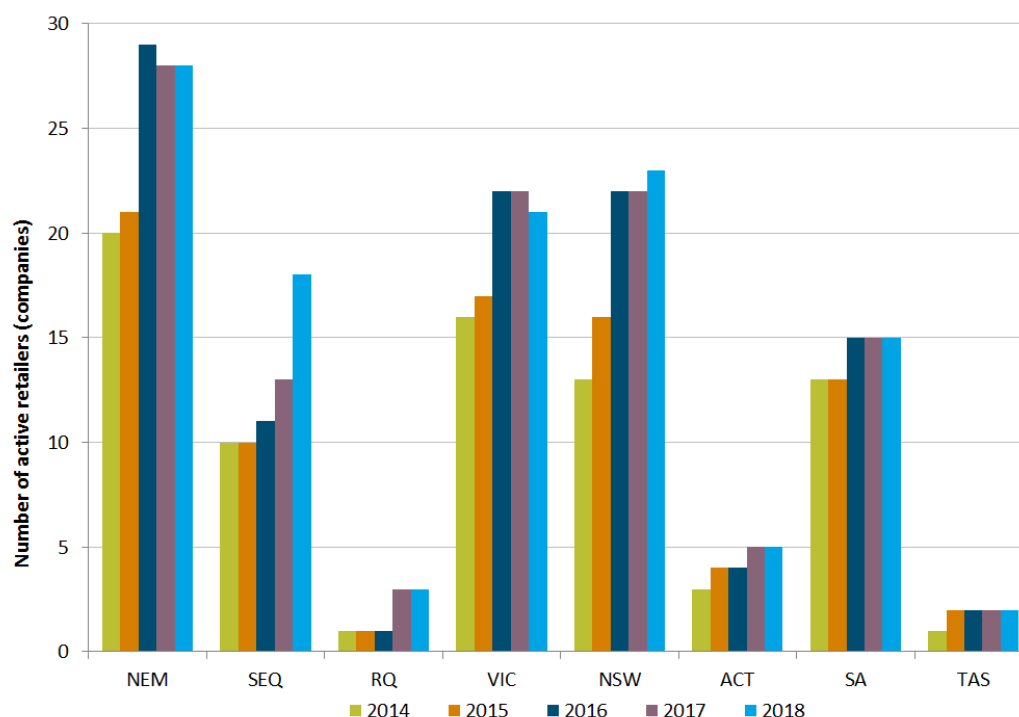
Generally, gas has been a secondary consideration for most customers as it is possible to opt out of the gas market (unless it is part of a business process). Gas has also been a less attractive value proposition for many retailers. As a result, electricity has been more of a concern for consumers and retailers. Therefore, the first sections of this chapter focus on the market structure indicators for the electricity market, with the final sections discussing matters relating to gas.

3.1 Electricity Market Structure

3.1.1 Active electricity retailers

As of March 2018, there were a total of 33 active retail electricity brands in the NEM, operated by 28 total electricity companies as shown in Figure 3.1 below.⁵¹ Further detail on these retailers is provided in Appendix C.

Figure 3.1 Active electricity retail companies



Source: AER, ESC, AEMO, AEMC analysis. Note: a retailer is classified as active if it has more than 50 customers, and has offers available to the general public through Energy Made Easy or Victoria Energy Compare.

As at March 2018, Energy Locals was the only business to have entered the NEM as a new electricity retailer since the 2017 Review, and was active in New South Wales and South East Queensland. Four other retailers expanded their brands into the South East Queensland market which was deregulated on 1 July 2016, and two electricity retailers expanded into regional Queensland. South Australia, Tasmania and the Australian Capital Territory remained static with no new entrants or exits. New South Wales had the highest number of active retail electricity brands with 27 brands. Victoria saw one retailer exit the market, Online Power and Gas. As this was not a *retailer of last resort* event, this may suggest that this retailer has sold its retailer book of around 10,350 customers to another retailer.⁵²

⁵¹ A single company can own multiple brands, for example Snowy Hydro owns both the Lumo Energy and Red Energy brands.

⁵² Essential Services Commission 2017, *Victoria Energy Market Report*, p. 18-19

3.1.2 Ownership structures of electricity retailers

There has been an increasing trend of retailers in the electricity market vertically integrating by acquiring generation assets.⁵³ Vertical integration in the electricity market provides a means for retailers and generators to internally manage the risk of price volatility in wholesale spot markets as they have a physical hedge.⁵⁴ For generators, adding a retail arm can also provide an extra path to market for their generation load.

Generally, vertically integrated businesses are imperfectly hedged in a particular region as they may own more or less generation than their retail load in that jurisdiction. For this reason, the businesses participate in wholesale contract derivatives (futures) markets to manage outstanding wholesale spot exposure.

A consequence of vertical integration is that the volume of trading a retailer or generator needs to perform in the wholesale contract market is less than would be the case if it were stand-alone. Vertical integration reduces the need to enter into forward (hedge) contracts and may affect the level of liquidity in the wholesale contracts market.⁵⁵ This in-turn impacts on how stand-alone retailers compete and manage their exposure to wholesale spot market risk.

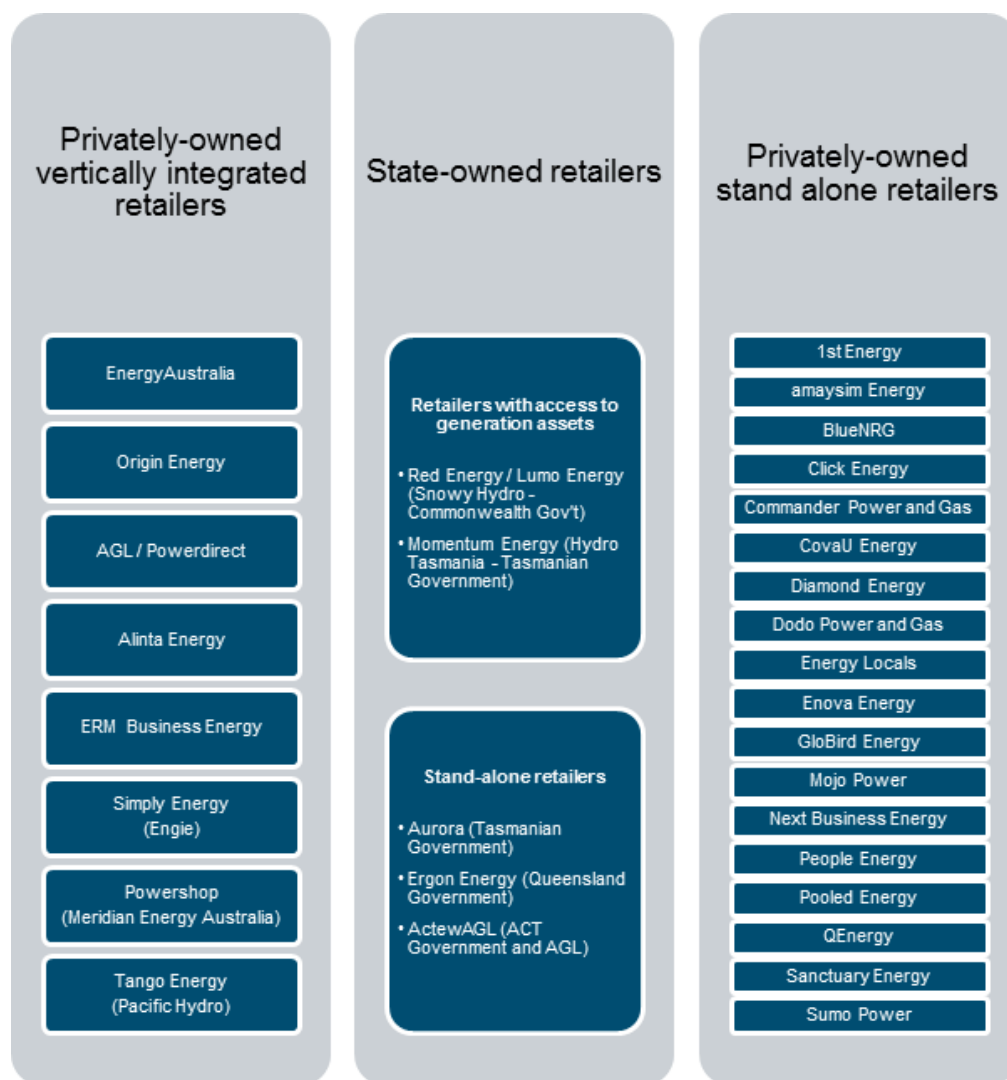
Figure 3.2 divides electricity retailers into three types of retailers based on their ownership structure. The types of retailers are discussed below.

⁵³ Generators who acquire retail businesses or vice versa, are vertically integrated. These entities are generally referred to as 'gentailers'.

⁵⁴ A business that is vertically integrated is physically hedged, meaning it has direct access to generation to cover its load (demand). Therefore, it does not need to purchase that quantity of generation from another party, or enter into a derivatives (futures) market for that quantity.

⁵⁵ AER, *State of the Energy Market May 2017*, Australian Energy Regulator, Melbourne, p.140.

Figure 3.2 Electricity retailer ownership structure



Note: retailers in this list may not participate in all jurisdictions. Does not include embedded network providers or exempt sellers. Current as at March 2018. Privately-owned vertically integrated retailers is defined as non-Australian state-owned retailers. It should be noted that some foreign government-owned retailers are included- partially owned retailers such as Engie- France and Meridian- New Zealand, and wholly stated-owned through a parent company, Pacific Hydro- China. ActewAGL has access to generation assets through AGL. Actew does not own any generation assets.

Privately-owned vertically integrated retailers

The first segment of retailers is those who are privately-owned and vertically integrated. Within this group are retailers who have direct ownership of generation assets and includes:

- the 'Big 3'⁵⁶ incumbent retailers: increased their market share in generation capacity across the NEM from 15 per cent in 2009 to 48 per cent in 2017. They supply about 70 per cent of retail electricity customers in the NEM.⁵⁷ In this Report the Commission refers to all non-Big 3 retailers as 'Tier 2' retailers.

⁵⁶ The 'Big 3' retailers are AGL, Origin Energy and EnergyAustralia.

⁵⁷ AER, *State of the Energy Market May 2017*, Australian Energy Regulator, Melbourne, p. 47.

- **Alinta Energy:** owns generation assets across the NEM, including the Loy Yang B Power Station purchased from Engie in late 2017. This purchase, along with bi-lateral wholesale electricity contracts secured with CS Energy has improved Alinta Energy's ability to manage wholesale costs in the current market conditions and allowed it to offer more aggressive retail pricing in some regions.
- **ERM Business Energy:** owns gas-fired power generation assets in the NEM.
- **Simply Energy:** has an arm's length relationship with owner Engie. Usually, retailers who are at arm's-length to generation assets may have access to hedging products from their generation interests, but must purchase wholesale contracts at market rates and terms. Their ownership structure may help them to access hedging contracts, but does not reduce the cost of this risk management as the price of financial products are determined on the market. This arm's-length relationship with Engie is likely to have lessened the impact of selling Loy Yang B Power Station to Alinta Energy in 2017.

In March 2018, Simply Energy announced its plan to provide six MW of storage by installing 1,200 batteries in homes across Adelaide that already have solar PV.⁵⁸ This is an opportunity for Simply Energy to have direct access to its own generation capacity, outside of its relationship with Engie.

- **Tango Energy:** the retail arm of Pacific Hydro.
- **Powershop:** owned by renewable energy generator Meridian Energy Australia.

State-owned retailers with generation assets

The second segment of Figure 3.2 refers to Tier 2 retailers who are state-owned and may have access to generation assets. Retailers in this section of the market have access to generation either directly, or at arm's-length where their government owner also owns generation assets. The retailers with direct access to generation assets are:

- **Red Energy and Lumo Energy:** the retail arms of the Commonwealth Government-owned Snowy Hydro.⁵⁹
- **Momentum Energy:** the retail arm of the Tasmanian Government-owned Hydro Tasmania (Momentum does not operate as a retailer in Tasmania).

The following retailers are owned by state governments, and that government also separately owns generation assets. They are therefore stand-alone and at arm's-length to the generation assets:

- **Aurora Energy:** owned by the Tasmanian Government
- **Ergon Energy:** owned by the Queensland Government
- **ActewAGL:** co-owned by the Australian Capital Territory Government and AGL.

⁵⁸ ARENA, 2018, *Simply Energy to build 8MW virtual power plant in Adelaide*, ARENA, arena.gov.au/news/simply-energy-build-8mw-virtual-power-plant-adelaide.

⁵⁹ In February 2018, the Commonwealth Government announced it has sought agreement from the New South Wales and Victorian Government's to purchase their shares of Snowy Hydro.

Stand-alone retailers

The third segment of Figure 3.2 is privately-owned, stand-alone Tier 2 retailers. These retailers do not have any generation interests and generally manage their exposure to the wholesale spot market through:

- trading on the wholesale forward contract market via over-the-counter (OTC) contracts with generators
- Australian Stock Exchange (ASX) futures
- Power Purchase Agreements (PPA).

Further information on wholesale contracts is provided in Box 3.1.

New and non-traditional retailers

As the retail market continues to evolve, a number of new, non-traditional retailers have emerged. While these retailers provide similar services to other retailers (purchase of wholesale electricity, billing etc), they are often funded in different ways or provide innovative products. Examples of these new, non-traditional retailers are:

- **DC Power Co:** the first crowd-source funded business to seek an energy retailer's licence. Investors (17,625) helped fund the development of the business with a view to start launching business services in mid-2018.⁶⁰
- **Enova Energy:** established in 2016, Enova Energy operates in the Northern Rivers region of New South Wales and is a community-owned company, with a focus on solar and distributed energy.⁶¹
- **Embedded Network Retailers:** private electricity networks which serve multiple premises and provide retail services to customers within the network. Embedded networks have evolved and grown significantly in recent years and are discussed further in section 3.7.1.

3.1.3 Market participation and market shares in electricity markets

Competitive markets generally exhibit low levels of concentration and a diversity of business types. This should, in turn, limit the ability of a business to exert a high degree of market power to influence price, quantity and quality outcomes. In addition to examining any change in the number of retailers, to assess the level of competition across the NEM the Commission analyses:

- trends in market share in the short- and long-term, as measured by the relative share of customers held by retailers
- the Herfindahl-Hirschman Index (HHI) for the small customer market in each jurisdiction.

⁶⁰ For more information see: www.dcpowerco.com.au/our-business/.

⁶¹ For more information see: enovaenergy.com.au/about-us/history/.

The HHI is a commonly used measure of market concentration and is calculated by summing the squares of the market share (by customer numbers) of all firms competing in a market. Higher HHI scores, for example, closer to 10,000, indicate a more highly concentrated, non-competitive market environment. While lower scores, for example, approaching zero, indicate a very vigorous and effectively competitive market environment.⁶²

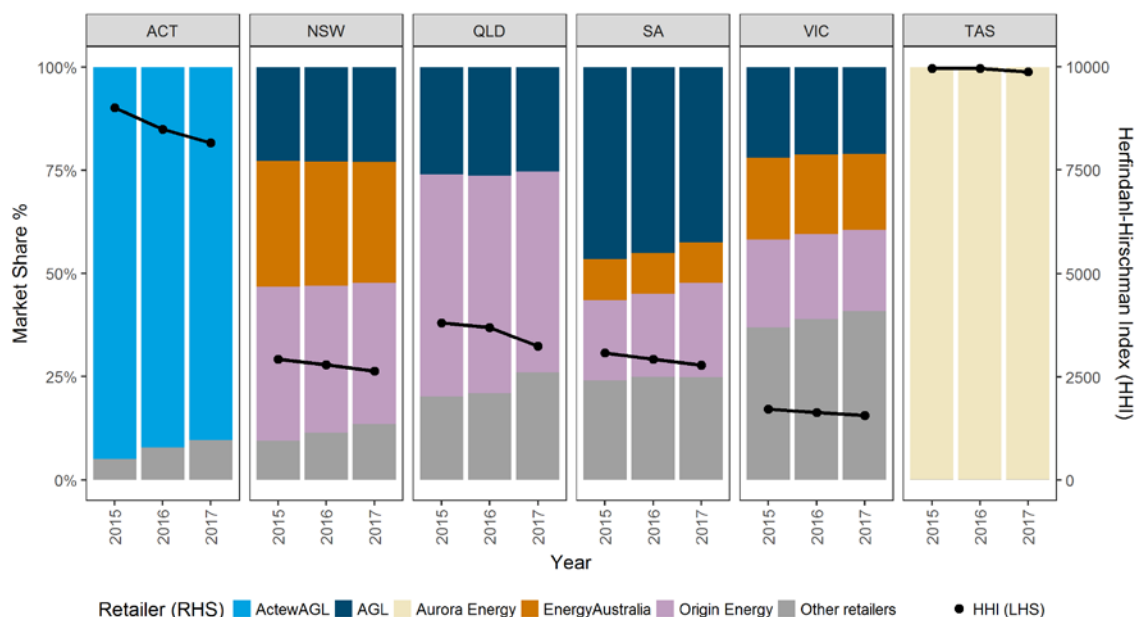
Continuing the trend the Commission saw in our 2017 Review, the level of retail electricity market concentration has decreased over time in all NEM jurisdictions. The rate of change has varied by jurisdiction over time. Detail on the short- and long-term changes in market share are outlined below.

Short-term changes in market share and market concentration

Figure 3.3 shows that, in the short-term (from 2015 to 2017), while there were relatively minor changes in all NEM jurisdictions, the:

- combined market share of the Big 3 has decreased and the share of Tier 2 retailers has increased
- HHI score for all jurisdictions indicates lower levels of market concentration.

Figure 3.3 Short-term changes in market share, 2015 to 2017 (electricity, calendar year)



Source: AER, AEMO, AEMC analysis. Note: Includes residential and small businesses. AER market share is based on the whole of Queensland, HHI for South East Queensland only. The 'other retailer' category in the Australian Capital Territory includes the market share of the Big 3 retailers.

⁶² In theory, a monopoly market would have a HHI of 10,000, while in a textbook perfectly competitive environment the HHI would approach zero.

Some of the key findings across the NEM, as shown in Figure 3.3, are:

- The HHI for New South Wales, South East Queensland and South Australia continues to decline following price deregulation in those markets.
- Victoria, the jurisdiction where deregulation has been in place since January 2009, continues to have the lowest total market share of the Big 3, and the lowest HHI score of all NEM jurisdictions.
- ActewAGL continues to be the main retailer in the Australian Capital Territory market. There has been a small increase in the market share of other retailers, although this gain has been made by Origin Energy and EnergyAustralia. This change has meant the HHI has decreased since 2015. The relatively rapid decrease in HHI in the Australian Capital Territory may be attributed to the strength of the competitors entering the market.
- Tasmania remains highly concentrated despite having full retail contestability since 2014. Aurora is the only retailer active in the residential segment, however it also retails to small businesses. ERM Business Energy competes with Aurora in the small business, and commercial and industrial (C&I) segments. While this represents a very small share of the total retail market, the presence of ERM Business Energy competing in the market has resulted in a slight decrease in the HHI for Tasmania since 2016. However, with a HHI result of close to 10,000 it is essentially a highly concentrated business market and a regulated monopoly residential market.

Longer-term changes in market share

Over a seven-year period, the changes in market share across the NEM are more notable. Since 2010, Tier 2 retailers have gained market share in South East Queensland, New South Wales, Victoria and South Australia. The gains from 2010 to 2017 are summarised in Table 3.1 and show ranges from 8.8 per cent in South East Queensland to 16.4 per cent in Victoria. Higher increases in Tier 2 retailer market shares are generally closely correlated with longer periods of deregulation in jurisdictions.

The Australian Capital Territory is the only jurisdiction that has seen the market share of Tier 2 retailers decrease between 2010 and 2017. This reflects the nature of the retail market where the incumbent, ActewAGL, is being challenged by Origin Energy and EnergyAustralia. While ActewAGL's market share has decreased to 90.3 per cent, in combination with the other Big 3 of Origin Energy and EnergyAustralia, the market share of the large retailers is 99.9 per cent, as seen in Table 3.1.⁶³

⁶³ This is down from 92 per cent in 2007 when EnergyAustralia increased its presence the market and which again increased to 95 per cent in 2014 (AEMC, *2014 Retail Competition Review*, Final Report, 22 August 2014, Sydney).

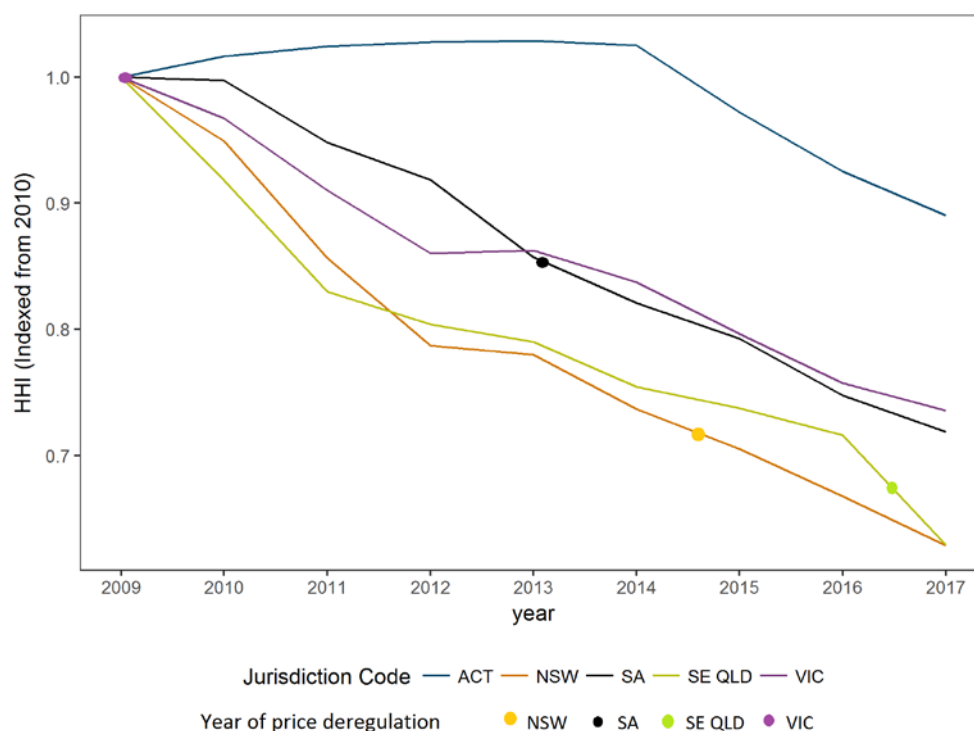
Table 3.1 Longer-term changes in market share, 2010 to 2017 (electricity, by jurisdiction, calendar year)

Jurisdiction	Combined large retailer market share		Tier 2 gain	Full retail contestability	Deregulated electricity pricing
	2010	2017			
South East Queensland	94.9%	86.1%	8.8%	July 2007	July 2016
New South Wales	99.0%	86.4%	12.6%	January 2002	July 2014
Victoria	75.5%	59.1%	16.4%	January 2002	January 2009
South Australia	86.1%	75.2%	10.9%	January 2003	January 2013
Australian Capital Territory*	99.8%	99.9%	-0.1%	July 2003	

*Large retailers in South East Queensland, New South Wales, Victoria and South Australia are the Big 3. ActewAGL has been included as a large retailer in the Australian Capital Territory, alongside the Big 3, given it is the dominant supplier in that jurisdiction. Source: AER and ESC, AEMC analysis. Note: Residential customers do not have an effective choice in Tasmania so it has not been included.

The downward trends in the HHI scores across most jurisdictions are also more distinct over the longer term, as seen in Figure 3.4 below. Longer term HHI changes show the speed of change rather than the degree or level of concentration. It presents a picture of how the market reacts quickly to competitive pressures, which is different to the market evolving into a truly competitive state.

Figure 3.4 Longer-term changes in HHI, 2009 to 2017 (electricity, indexed)



Source: AER and ESC, AEMC analysis.

Figure 3.4 shows how HHI scores have changed over time relative to their 2009 levels, when price deregulation commenced in the NEM, in Victoria. The main points to note are:

- Since 2009, the indexed HHI has decreased steadily for all jurisdictions. New South Wales and South East Queensland have seen the greatest decrease in relative HHI. This reflects the high number of retailer brands in the New South Wales market, and in South East Queensland both price deregulation in 2016, and Alinta Energy's aggressive entry into that market.
- Victoria does not have the lowest indexed HHI as there were a number of entrants in the market prior to 2009, and it was therefore starting from a higher base than other jurisdictions.
- In the Australian Capital Territory, the increase in HHI between 2009 and 2014 represents an increase in ActewAGL's market share, despite EnergyAustralia entering the market in 2007. From 2014 to 2017 there has been a small but significant decrease in HHI with the entry of new retailers, such as Origin Energy.

3.1.4 Consumer switching

Consumer switching activity can provide an insight into the level of independent rivalry among retailers in a market and also influences levels of market share. Information about consumers switching between different types of retailers (such as switching from one Big 3 to another, or from the Big 3 to Tier 2 retailers) provides an indicator of progress in achieving effective competition in a market. Further, the rate of switching between the Big 3, and from Tier 2 retailers to the Big 3, provides an insight into how effectively retailers who have historically enjoyed the benefits of incumbency are competing for consumers. Consumer satisfaction and overall switching behaviours are discussed further in chapter 5.

This section examines consumer switching in the electricity market:

- between the Big 3
- from Big 3 to Tier 2 retailers
- from Tier 2 to Big 3 retailers
- between Tier 2 retailers.

Switching rates between and within retailer tiers are shown in Figure 3.5 for all jurisdictions:⁶⁴

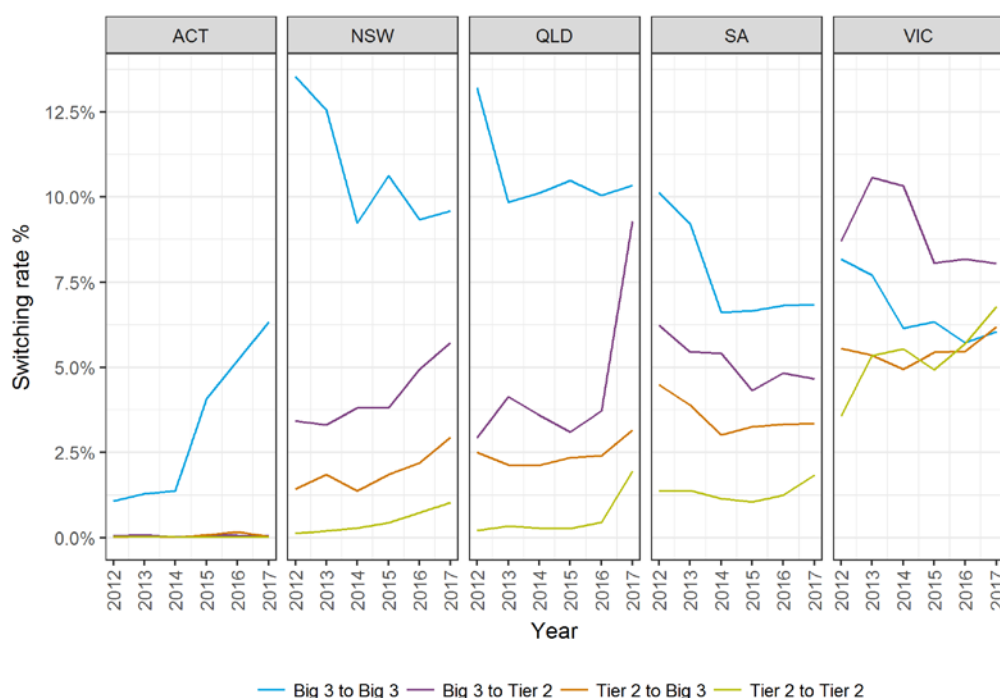
- Switching activity between different tiers of retailers has increased in New South Wales and Queensland, with higher switching rates from the Big 3 to Tier 2 retailers in 2017. This is a reversal of the trend observed in 2015 and 2016.
- Following price deregulation in South East Queensland, there was an approximately four per cent increase in switching from Big 3 to Tier 2 retailers. Feedback from the retailer survey suggests that this trend is a result of Alinta

⁶⁴ Tasmania is not included in the analysis as there is no residential retail competition.

Energy entering the market in July 2017 and offering high discounts. This resulted in competitors providing better offers to customers in South East Queensland in an attempt to retain or gain customers (discussed further in section 3.8.1).

- Switching rates from Big 3 to Tier 2 retailers are relatively stable in Victoria and South Australia, the two jurisdictions with the longest price deregulation.
 - There appears to be a convergence of all types of switching in Victoria, which could suggest the level of differentiation between Big 3 and Tier 2 retailers is reducing.
- There has been a slight increase in switching between Tier 2 retailers and from Tier 2 to the Big 3 in all jurisdictions (with the exception of the Australian Capital Territory). This is continuing the trend over the past two to three years.

Figure 3.5 Switches within and between retailer tiers, 2012 to 2017 (electricity)



Source: AEMO, AEMC analysis. Note: data does not include where a customer has changed plans with its current retailer. ActewAGL was included in the Big 3 retailer for the Australian Capital Territory analysis.

3.2 Retailer survey

In addition to examining observable market share data and trends, the AEMC also conducted a retailer survey and interviews. The survey and interviews aim to obtain insights from retailers of various sizes about what they believe is affecting market structure, and the state of competition in the energy market. This survey examines:

- barriers to entry, expansion and exit
- the importance of economies of scale and scope
- wholesale contract market issues
- vertical integration

- other issues affecting market structure
- jurisdictional issues.

The survey and interview results inform the discussion in the rest of this chapter.

3.3 Barriers to entry, expansion and exit - electricity

Competition will generally be high in those markets where there are low barriers to entry into or expansion in the market. The ease of entry and expansion creates pressure on competitors and provides an incentive for retailers to deliver more efficient services, charge efficient prices, and improve product and service offerings. The existence of barriers could impact price and the range of new product and services being offered to consumers.

This section focuses on retailers' views on barriers to entry, expansion and exit in the electricity market. The results for gas markets are reported separately in section 3.9.6.

Generally, some retailers noted that the significant number of active retailers in most jurisdictions in the NEM suggests that barriers to entry are not insurmountable.

However, the main areas of concerns raised by retailers were the:

- increase in regulatory and political intervention in their businesses
- trend for jurisdictions to move further away from regulatory consistency
- behaviour of some retailers with regards to aggressive win-backs
- lack of liquidity in the wholesale contract market, which is most acute in South Australia.

These and other issues regarding barriers to entry and expansion are outlined below.

3.3.1 Political and regulatory intervention

As discussed in chapter 2, government intervention has the potential to influence retail competition through changes to market rules and market dynamics. Many retailers noted the unprecedented level of political and media attention on the energy sector. Retailers also commented that the approach to energy policy is piecemeal, which potentially creates an administrative burden and increases compliance costs.

Some retailers were concerned that the current interventions would not result in better outcomes for consumers. One retailer believes that the cost to service customers resulting from regulatory intervention is increasing more than the cost to acquire customers (the AEMC does not have access to data to verify the level of this increase).

A number of retailers noted that the National Energy Guarantee (the Guarantee) is creating uncertainty in the market. Most were waiting to understand the detail before they would make comment on whether this would impact competition, and create or increase barriers to entry or expansion. Several retailers commented that the Guarantee has the potential to have large impacts on the wholesale contract market and retail market competition.

3.3.2 Regulatory divergence

The National Energy Customer Framework (NECF) was designed to regulate the sale and supply of electricity and gas to retail customers across the NEM. However, state or territory laws can modify the application of parts of the National Energy Retail Laws (NERL) and NERR in that state or territory. This has resulted in different versions of the NECF applying in each state or territory. The consumer protection frameworks of the NECF do not apply in Victoria as it has its own framework under the Energy Retail Code.⁶⁵

As with 2017, nearly all retailers commented that they are concerned about the trend for jurisdictions to move away from regulatory consistency. This is particularly a concern as Victoria diverges further away from being aligned with the NECF with its recent *Payment Difficulties Framework*. Retailers suggest that incremental changes across jurisdictions create costs, as they are required to operate under different rules and regulations. Retailers are of the view that this increase in costs has the potential to create barriers to entry or expansion.

A number of retailers noted that this can be a barrier to entry for smaller retailers as it may result in a loss of scale due to different system requirements for each jurisdiction. Retailers commented that it may require them to have multiple customer management systems to operate, which will result in a loss of scale.

In previous reviews the Commission has noted that jurisdictions should consider harmonising their energy customer protection arrangements so that barriers and costs for existing and new retailers are minimised. This may help to reduce prices to consumers.

3.3.3 Concession schemes

Many retailers noted that concession reform is needed due to the variation of processes across the jurisdictions, and the complexity of application in some jurisdictions. This has impacts on both retailers and vulnerable consumers.

From a consumer perspective, retailers commented that in a number of jurisdictions, complex and lengthy processes can mean that access to concessions is delayed. The variation in processes across the NEM was noted as an issue by many retailers, in their view, as it creates additional costs and administration for retailers.

Some retailers also noted that the way in which governments provide funding to retailers for rebates is an inhibitor to participating in the market. This is because they must wait 12 months before receiving rebate payments from the government, which means they are bearing the financial costs of the program.

The Commission raised the issue of concessions in the 2014, 2015, 2016, and 2017 Reviews, and noted that jurisdictions should review their concession schemes, with a view to aligning application across the NEM and reducing complexity. This may provide benefit to both retailers and vulnerable customers.

⁶⁵ The NECF was originally based on the Energy Retail Code and the two frameworks were originally reasonably aligned.

3.3.4 Win-backs

The retail energy market has a 10-day cooling off period in which customers, who have agreed to contractual terms with an alternative retailer, can change their minds.⁶⁶ The retailer who is losing the customer can potentially use this period to offer some incentive to stay, such as a higher discount. However, this notification through the Australian Energy Market Operator's (AEMO) Market Settlement and Transfer Solutions (MSATS) system to the retailer that the consumer is leaving was created to provide that retailer with the opportunity to object to the transfer only if there is an outstanding debt on that account (or other such technical reason). The feature was not intended to be used as a marketing information tool like it is currently by retailers.

As in the 2017 Review, smaller retailers surveyed this year noted that many customers are being offered discounts by the Big 3 retailer they are leaving that are higher than generally available discounts. Smaller retailers are not often able to offer such large discounts and therefore lose the customer to this win-back activity.

A number of smaller retailers indicated their concerns about the prevalence and aggressiveness of win-backs, and the lack of transparency of the practice. However, all retailers interviewed acknowledged that they carried out the practice in their business, including smaller retailers.

Retailers had a range of comments on win-backs:

- One retailer commented that the end result may not be good for all customers as high discounts need to be cross-subsidised by other customers.
- One retailer noted that while win-backs were a form of price dispersion and are an important part of the competitive environment, win-backs are becoming increasingly aggressive.
- Another retailer suggested that while win-backs were not a problem per se, the issue was, in the end, about a customer being caught between two retailers fighting for them, which may lead to a negative customer experience.

The practice of win-backs could be a contributing factor to increasing acquisition and retention costs for retailers.

3.3.5 Marketing channels

Retailers are still using a variety of marketing channels to acquire customers. However, most are no longer using door-to-door sales, despite it being a relatively cost effective marketing tool. Many retailers cited the reason behind this was the poor perception of the practice. In the past, poor practice with door-to-door sales has resulted in actions taken by the ACCC.

In our 2017 Review, many retailers noted the use of comparator websites and spoke positively of them as a marketing channel. However, this view has changed over the

⁶⁶ The intention of a cooling off period is to act as a safeguard for consumers, enabling them to change their mind about a purchase they have made or contract they have entered into. The NERR is consistent with the Australian Consumer Law with regards to this matter.

past 12 months with nearly all retailers interviewed seeing them as a “necessary evil”. These sites are seen as an important marketing channel, but their cost and a lack of transparency for consumers was a major concern for most retailers. Several retailers noted that the rise of these sites is likely due to the confusion created by retailer pricing practices.

Many retailers noted that a problem with commercial comparator sites was the inability to offer innovative products, when a quick sale based on a high discount was preferential to the comparator sites. As noted by one retailer, the third party comparator site’s business driver is much different to a retailer’s business driver. That retailer commented that commercial comparator sites are about quick sales to get commissions while retailers want a customer who is happy with their price and service, and will therefore ‘stick’. The role and issues with third party comparator sites are discussed further in section 5.4.3.

Smaller retailers suggested that the cost of these sites, coupled with the costs associated with aggressive win-backs, meant costs of customer acquisition were becoming a barrier to entry or expansion.

3.3.6 Barriers to exit

Most retailers did not identify any barriers to exit in the electricity market. However, one noted the proposed removal of the non-reversion policy in Queensland as a removal of a barrier for consumers to exit. Under the non-reversion policy, a customer who left Ergon Energy to take up a market offer with another retailer is not able to return to Ergon Energy.⁶⁷ The removal of this policy would give customers the ability to leave Ergon Energy knowing that they can return at a later date. As commented by one retailer, it may encourage retailers to enter the market in regional Queensland because it decreases the obligation of a retailer to continue to service a customer.

3.4 Economies of scale and scope

Economies of scale and scope can affect market structure. The existence of significant scale and scope economies can reduce the costs of servicing customers and therefore prices. However, if it is only achieved by a small number of retailers then consumer outcomes will be influenced by the degree of rivalry between these strong competitors.

3.4.1 Economies of scale

As with the 2017 Review, nearly all retailers surveyed for this year's report noted that economies of scale are important. Many retailers stated that they enable retailers to spread costs and investments over a larger customer base. They said scale economies can reduce the costs of entering new markets, and allows them to invest in new and innovative products. Some of the smaller retailers with higher fixed costs and a small

⁶⁷ In January 2018, the Queensland Government released its Affordable Energy Plan which includes the proposal to remove the non-reversion policy. The non-reversion policy is seen by the Queensland Productivity Commission as a barrier to entry for retailers, and is contributing to customers being reluctant to enter the retail market in regional Queensland. The Queensland Government is yet to remove the non-reversion policy.

customer base saw the absence of economies of scale as a barrier to expansion. However, one large retailer noted that as technologies advance and costs reduce (e.g. costs of IT systems) the need for scale becomes less important.

Retailers also cited the importance of scale in the face of the ongoing regulatory divergence. They noted that divergence decreases scale and increases their costs, although this will depend on system capability and will vary by retailer. One retailer commented that larger and more established systems are less agile in being able to respond to changing regulatory environments.

3.4.2 Economies of scope

Retailers provided limited commentary on economies of scope, although some noted that it is important in risk management, and in creating opportunities to expand into new markets.

As with 2017, one retailer noted that, from a consumer perspective, signing up both gas and electricity with the one retailer is an important time saving benefit. That retailer commented that from the retailer's perspective having dual fuel offers and providing a time saving benefit is more likely to make the customer stay.

However, that retailer believed that dual fuel customers may not necessarily provide operational benefits. In their view, this was because a third party comparator service may request two commission payments (one for each fuel), and the customer is likely to be serviced through separate customer management systems for electricity and gas (this is dependent on system capabilities for each retailer).

3.5 Wholesale contract market

The wholesale contract market is an important feature of the NEM, which supports retail competition. This section focuses on the wholesale contract market and examines:

- why retailers engage with the wholesale contract market
- reporting and transparency in the wholesale contract market
- feedback from the retailer survey on the current state of the wholesale contract market.

3.5.1 The importance of wholesale contract markets

The wholesale contract market has implications for outcomes in the retail market. A more liquid wholesale contracts market typically supports a more effectively competitive retail market.

A liquid wholesale contract market is typically characterised by:

- no single transaction being likely to move the price excessively
- individual trades that are able to be easily executed
- an ability to trade large volumes of energy in a short period of time
- a market that can recover towards its natural equilibrium after being exposed to a shock.

Importantly, liquidity is not in itself about increasing the volume of energy supplied to the market, though it can facilitate this outcome. It is about increasing the traded volume of energy in the market. That is the number of times electricity is bought and sold between different entities before being consumed.

Wholesale contracts, in the form of hedging products, provide protection for retailers from volatile and uncertain wholesale spot prices. Access to risk management products helps retailers to stay in business, even when there are high price events in the wholesale spot market. Where a liquid contract market exists, the value of vertical integration is viewed as less important. Box 3.1 outlines a number of aspects of the wholesale contracts market used by retailers in the NEM.

Box 3.1 Wholesale contract market

The NEM contains a wholesale spot market where generators are paid for the electricity they produce, and retailers pay for the electricity their customers consume. Retailers and generators use electricity wholesale contracts as a form of insurance against fluctuating spot market prices.

Contracts ensure retailers know the price that they will pay for electricity, which in turn allows them to write longer-term retail contracts with consumers, and therefore offer stable retail prices. For generators, contracts provide revenue certainty which is critical when seeking finance for new investments.

Contracts in the NEM are currently traded either on the ASX or bilaterally through an OTC contract. Swaps, caps and PPAs are examples of core contract types used in the electricity futures market.

Swaps

A swap contract trades a given volume of energy during a fixed period for a fixed price (normally 1 MW for either a one month or three month period at the strike price). The variable wholesale market spot price is, in effect, swapped for the fixed strike price. The contract is then settled through payment between the counter-parties based on the difference between the spot and strike price.

Caps

A cap contract trades a fixed volume of energy for a fixed price when the spot price exceeds a specified price. It provides electricity purchasers with insurance against high prices. The standard contract traded in the market is a '\$300 cap'. This means the seller of a cap is required to pay to the buyer the difference between the spot price and \$300/MWh every time the spot price exceeds \$300/MWh during the specified contract period. As a result of the one-sided payment obligations arising under a cap, caps are normally sold for a higher cost.

PPAs

A PPA is an agreement between a generator of electricity (often renewable generators) and a purchaser of electricity (generally a retailer or large corporate/industrial user). The PPA provides for a certain amount of electricity to be supplied for a certain price. The PPA provides a risk mitigation mechanism for price volatility both for the generator and the purchaser. However, given the

intermittent nature of renewable generators and the specific terms and conditions of the PPA related to the intermittency of generation, these agreements may only provide an imperfect hedge to price risk – i.e. if the generator is not generating at times of high prices, the purchaser will become exposed to those prices.

As noted in our 2017 Review, potential new retailers (or an existing retailer looking to expand) may, in the absence of its own generation plant, need to be able to obtain hedging contracts to manage its exposure to risk in the wholesale spot market.

A lack of liquidity in the wholesale contract market may create a barrier to entry and expansion for new and existing retailers. This will increase concentration in the market, reducing competitive pressures on existing retailers. The wholesale contract market is therefore a vital component of the energy market in Australia.

3.5.2 Reporting requirements for electricity derivatives

Until 2017, the AEMC's retail energy competition reviews reported on the derivatives turnover and liquidity in the electricity market. This data provided an indication of retailers' access to hedging products, to manage risk exposure for entering or expanding across different NEM markets.

While there is publicly available information on wholesale contract costs and the amount traded on the ASX, this only tells part of the story. It does not capture information about the OTC contracts that retailers can enter into with generators, which make up a significant portion of the wholesale contract market. Separately, there is also no information publicly available on the internal transfer costs that retailers incur to access their own generation. The Australian Financial Markets Association (AFMA) previously reported OTC energy contract transactions, but discontinued this survey in 2016. The 2017 Review recommended that, to capture the relevant information related to the trading of electricity derivatives, industry should develop a credible survey.

AFMA has confirmed that it will recommence its survey on OTC contract transactions in 2018, which will be back-dated to include 2016/17 data. However, data had not yet been released at the time of publication.

If data from this survey was updated to include data on cost and term of the contracts in a manner equivalent to the de-identified data published on ASX contracts, it may provide some additional benefit to the market. In New Zealand, all hedge transactions (exchanged traded and OTC contract) are collected and published in a transparent way that protects the commercial parties' interests.⁶⁸

The Energy Security Board (ESB) is also currently examining potential reporting and market-making obligations of vertically integrated retailers as part of its work on the National Energy Guarantee. This work may provide a platform for not only OTC contract data, but also internal transfer pricing data to be disclosed.

To improve the ability of policy and regulatory agencies to understand the market and the market circumstances of consumers, the Commission recommends that the AEMC

⁶⁸ For more information, see: www.electricitycontract.co.nz/.

work with industry to make data on OTC electricity contracts available to the market in a form that enhances transparency of the wholesale cost of energy. This work will be done in conjunction with any proposed mechanism that would give visibility of OTC contracts in the National Energy Guarantee work program.

3.5.3 Feedback from retailers on the wholesale contract market

Many retailers noted that a lack of liquidity in the contracts market is a barrier to entry or expansion for small retailers. Due to their size, small retailers commented that they may not have access to a number of products such as swap and caps as their load is too small. One retailer noted that liquidity has always been an issue in the wholesale contract market, and that it has progressively been getting worse over the past three years. That retailer suggested that there are not enough generation counter-parties to have a constant flow of contracts. Another retailer suggested that transparency is a problem in the wholesale contract market. They have questioned whether the higher wholesale costs they experienced over the past year are similar to those incurred by vertically integrated retailers.

Most retailers indicated they currently use a mix of OTC contracts and the ASX derivatives market to hedge their risk on the wholesale market. However, some deal exclusively with the OTC market if they have a small load profile.

A number of comments were also made about South Australia. Most retailers noted that the contract market in South Australia is a cause for concern. Getting access to contracts in that jurisdiction is difficult. Limited access to competitively priced risk management products creates barriers to entry and expansion in that market. A number of retailers said that they would not enter the market or are not actively seeking new customers in South Australia.

As an alternative to hedge contracts, some retailers are also exploring opportunities for demand response or battery technology to reduce exposure to the spot market. In the absence of owning generation assets, consumer battery storage technology, provide retailers with some scope to vertically integrate behind the meter and access an alternative physical hedge. This is discussed further in chapter 7.

3.6 Vertical integration - electricity

Vertical integration can affect market structure by adversely impacting the liquidity of the wholesale contract market. It potentially limits the ability of stand-alone retailers to access affordable hedging products. Further, if it leads to discriminatory behaviour in the supply of wholesale contracts, it has the potential to reduce the benefits of competition to consumers.

Retailers offered different views on the need for, and value of, vertical integration. Compared with our 2017 Review, more retailers surveyed for this year's report considered that vertical integration is becoming increasingly important. Retailers consider that it gives certainty to allow a retailer to expand, particularly where there is a lack of liquidity in the wholesale contract market. One Tier 2 retailer noted that “[c]ompetition has substantively lessened in [the] mass market as retailers who do not own generation are now no longer able to compete with those that do.”

A number of retailers offered the view that vertical integration is becoming increasingly necessary as wholesale market liquidity decreases. Of particular note by some retailers was that having generation provides a large advantage in a tight or illiquid market like South Australia. One retailer noted that a lack of access to its own generation or long-term contract arrangements puts them at a competitive disadvantage relative to the large vertically integrated retailers across all jurisdictions. As stated by one Tier 2 retailer “Electricity generation remains a consistent factor in the ability to operate. Although hedge arrangements are available for non-vertically integrated entities, there is a distinct lack of transparency over the pricing and product offering on the market with general opacity at the generator level. Contractual arrangements and overly onerous credit support arrangements continue to be a source of concern”.

Several of the small retailers stated that they have considered investing in generation but the capital outlay has been too onerous for a retailer of their scale.

3.7 Other issues influencing market structure and competition - electricity

In addition to the issues identified above, retailers commented on a number of other issues that are having an impact on the structure of retail markets.

3.7.1 Embedded networks

In our 2017 Review, the Commission examined the increase in the number of embedded networks as a way for energy to be generated, distributed and sold to consumers. Following this, in November 2017, the AEMC released its *Review of regulatory arrangements for embedded networks* (Embedded Networks Review). This review found that an increasing number of customers being supplied by embedded networks are subject to different regulatory arrangements and consumer protections, than customers that have a standard network connection.

The Embedded Networks Review found that customers receive a lesser level of consumer protections compared to customers under the NECF or singular jurisdictional requirements. It also found that significant practical barriers exist for customers in embedded networks to access retail market competition. This means that embedded network customers have a limited ability to change supplier if they are unhappy with the price they are paying or level of service they are receiving.

The Embedded Networks Review made recommendations that, among other things, the NERL and NERR should be amended to implement a new regulatory framework for embedded networks. This would include improving access for embedded network customers to retail market competition and increased consumer protection. Work to progress the recommended rule changes is underway by the AEMC.

As part of the retailer interviews, the Commission asked retailers about their views on embedded networks. A number of retailers commented that this is an area that they are looking to enter. However, most have not actively sought ‘on-market’ customers within an embedded network due to the complexity of getting access through an embedded

network manager.⁶⁹ Many retailers noted this is a growing market and of interest, as it creates more opportunity for customer acquisition.

3.7.2 Competition in metering

On 1 December 2017, new metering rules came into effect to open up metering competition and facilitate a market-led roll out of smart meters. Under the new rules, any party will be able to compete to provide metering services to retailers. Also, retailers must install smart meters where new and replacement meters are required.⁷⁰

A number of retailers noted that the new metering rules were positive, but that there were some operational issues. These could be addressed by a series of rule changes submitted to the AEMC.⁷¹

The competition in metering rule is intended to promote innovation and lead to investment in advanced meters that deliver the retail energy services valued by consumers at a price they are willing to pay. During the interviews, many retailers noted that more products and services are being developed as the roll out of smart meters continues. This includes products that allow a customer to understand how appliances in their household impact their energy usage. Retailers stated that they believe the smart meter roll out has resulted in more innovative products.

Following the rule change, the New South Wales Government has placed a temporary moratorium on remote connections and disconnections of smart meters because of safety concerns. One retailer commented that this was limiting innovation in that jurisdiction, particularly in relation to services for consumers who are moving into or out of a property.

3.7.3 Hardship

As a result of the increased focus on the affordability of energy, this year's retailer interview asked questions on hardship. Hardship is discussed further in chapter 8.

The AER has reported that there has been an increase in the number of customers on hardship programs, and an increase in the numbers of customers who are excluded from programs for non-payment.⁷² However, most retailers were not able to explain the results the industry is seeing in relation to hardship numbers and exclusions.

⁶⁹ As of 1 December 2017, network exemption holders must appoint or become an Embedded Network Manager. The Embedded Network Manager will provide a National Metering Identifier to customers within an embedded network who want to go on-market. On-market refers to a customer who is registered in the wholesale market system and can therefore be 'won' by a new retailer. For more information see:

www.aer.gov.au/networks-pipelines/network-exemptions/embedded-network-managers.

⁷⁰ Victoria mandated smart meter roll outs in 2006 and the new metering rules will not apply until 2021.

⁷¹ These rule changes include the Metering installation timeframes submitted by The Honourable Josh Frydenberg.

⁷² AER, *Annual Report on Compliance and Performance of the Retailer Energy Market 2016-17 – Appendix – Performance of energy companies*, AER, Melbourne.

Although some noted that the increase in hardship numbers may be a result of retailers more actively seeking to include customers on programs.

An issue noted by larger retailers was the action of small retailers to credit check customers before taking them on. Retailers commented that this practice means that some customers are not able to switch to that smaller retail and therefore the larger (likely incumbent) retailer takes on the burden of customers with poor credit history. They believe that this may be a reason for the results for the larger retailers. Retailers also commented that the practice of credit checking limits the amount of choice a hardship customer has, and means they may not be on the best offer available.

3.8 Jurisdictional issues

This section highlights issues that retailers identified in the survey in relation to a single jurisdiction. These issues are outlined further in Appendix F.

3.8.1 Queensland

Retailers commented on the following issues in Queensland:

- the Uniform Tariff Policy (UTP) was again cited by retailers as a barrier to them being able to offer competitively priced services in regional Queensland.⁷³
- Retailers were of the view that the agreement between Alinta Energy and CS Energy in late 2017 was of concern. This was because they believe it allowed Alinta Energy to provide very high discounts to customers. The retailers' main concern was the support the Queensland Government gave to Alinta Energy when it promoted the offer to consumers. However, other retailers stated that Alinta Energy's aggressive entry into the market was promoting competition and better price offerings to consumers.
- As discussed in section 3.3.6, the proposed removal of the non-reversion policy was seen by one retailer as a step towards removing barriers to exit in regional Queensland.

3.8.2 New South Wales

There was limited specific commentary on New South Wales. However, some retailers commented that the recent changes to the NSW Social Programs for Energy Code (SPC) were another example of jurisdictional divergence. Retailers suggested the process to implement the recent changes was not straight-forward, particularly due to the retrospective application of the changes. Also, as noted in section 3.7.2, some retailers consider the government's moratorium on remote connections and disconnections of smart meters is limiting innovation in New South Wales.

⁷³ The UTP is a payment from the Queensland Government to Ergon Energy's retail business to ensure the prices paid by small consumers are equivalent to those paid by the same customer types in the competitive market in South East Queensland. However, as the subsidy is not available to other retailers, it creates a barrier for them to offer competitively priced services. The Queensland Government has made no commitment to change the current arrangements.

3.8.3 Australian Capital Territory

The continuation of retail price regulation in the Australian Capital Territory, and the size of market, was again cited by retailers as a barrier to entry.

3.8.4 Victoria

Retailers commented on the following issues in Victoria:

- Consistent with previous years, the most significant issues cited by nearly all retailers surveyed was the differences between Victorian regulatory arrangements and the rest of the NEM, and the resulting cost impacts.
- Of particular note to most retailers was the ESC's new payment difficulty framework. One retailer noted that some new retailers have been holding off entering the market during the ESC's review of the framework.
- Another major concern for nearly all retailers was the Thwaites Review.⁷⁴ Many argued that the re-regulation of prices would have a negative impact on competition and innovation.

3.8.5 South Australia

Retailers commented on the following issues in South Australia:

- Some of the smaller retailers noted that the market was too volatile to allow them to operate, due to limited access to competitively priced risk management products.
- The lack of liquidity in the South Australian wholesale market continues to be an important issue for retailers, with many citing it as a significant barrier to entry or expansion.
- However, two retailers did note that the former South Australian Labor Government's plan for a virtual power plant could have the potential to remove some of the barriers to entry for smaller retailers by opening up access to dispatchable generation.⁷⁵ Phases 1 and 2 of the program have been honoured by the current South Australian government with a review taking place prior to commencement of Phase 3.

3.8.6 Tasmania

As with previous reviews, retailers cited the continuation of price regulation in Tasmania, and the size of the market, as a major barrier to entry.

⁷⁴ The Victorian Government has since announced that it will consult further regarding the proposed Basic Service Offering, and will request that the ESC develop a methodology on this. This is discussed further in chapter 2.

⁷⁵ In February 2018, the former South Australian announced a plan to connect up to 50,000 home solar and battery systems to form a Virtual Power Plan. This commenced in 2018 with a trial of 1,100 Housing Trust properties. The Government is assisting the project with a \$2 million grant and \$30 million loan from the Renewable Technology Fund (ourenergyplan.sa.gov.au/virtual-power-plant).

3.8.7 Price deregulation

The Commission considers that prices should be deregulated where competition is effective. From the data outlined in this and later chapters, as well as retailers' views, effective competition is yet to emerge in the Australian Capital Territory, regional Queensland and Tasmanian electricity markets. This may be due to:

- the limited size of the Tasmanian and Australian Capital Territory electricity markets
- the continuation of the UTP in regional Queensland.

Therefore, the Commission does not consider that price deregulation is warranted in these regions.

3.9 Gas market structure and retailer survey

3.9.1 Active retailers

As of March 2018, and as shown in Figure 3.6 below, there were a total of 13 active retail gas companies across NEM jurisdictions and 16 retail brands. Since 2017, retailer, amaysim Energy was the only new retailer to enter the market with Sumo Energy expanding their electricity business in Victoria into the gas sector.

Figure 3.6 Number of gas retailer companies



Source: AEMO. AEMC analysis. Note: a retailer is classified as active if it has more than 50 customers, and has offers available to the general public through Energy Made Easy or Victoria Energy Compare.

Generally, entry into gas has been relatively static over the short-term with no new entrants into Queensland, Tasmania, and the Australian Capital Territory since 2016. Retailers suggest that additional gas retailers are being deterred from entering the market due to high wholesale prices where there is currently a tight supply of gas. More information on barriers to entry in the gas market is given in section 3.9.6. However, it is

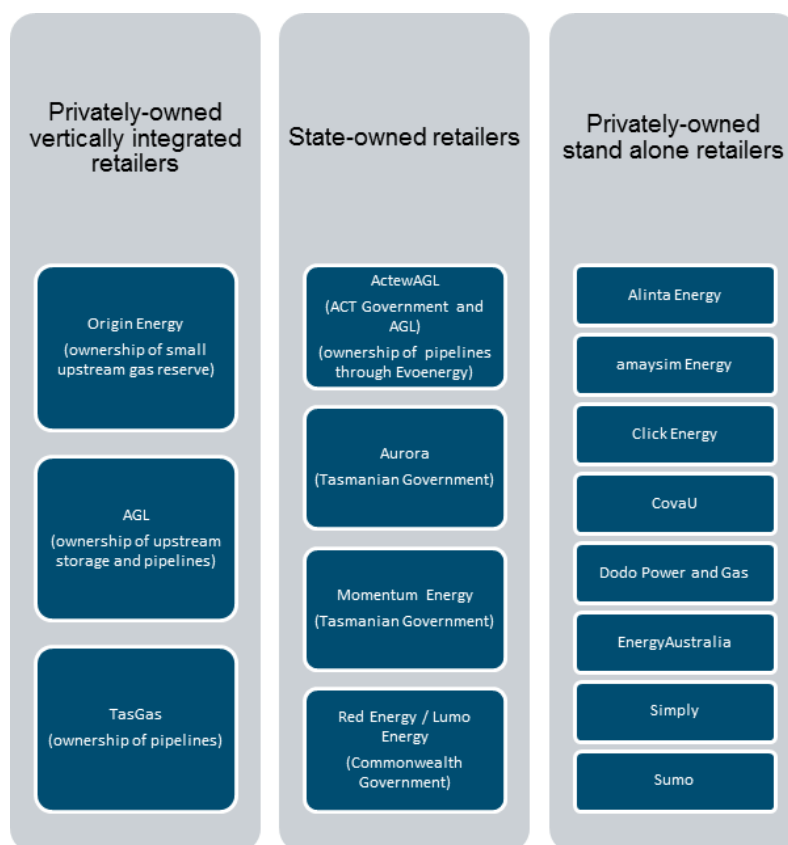
anticipated that Royal Dutch Shell may enter into the retail gas market as part of expanding its business beyond commercial and industrial customers.⁷⁶ This may be a significant change for the structure of the gas market in the future.

On 1 July 2017, New South Wales was the last jurisdiction to deregulate retail gas prices. Historically, entry has occurred when prices have been deregulated in other retail energy markets in the NEM. Following deregulation in New South Wales, three gas retailers have entered the market, bringing New South Wales closer to Victoria as the jurisdiction with the highest number of retailer brands.

3.9.2 Ownership structures of gas retailers

In gas, vertical integration refers to ownership of a retailer and upstream assets, such as pipelines and storage. Unlike in electricity, there has been a trend in recent years for retailers in the gas market to divest their upstream interests. As can be seen from Figure 3.7 below, there are fewer vertically integrated retailers.

Figure 3.7 Gas retailer ownership structure



Note: retailers in this list may not participate in all jurisdictions. Does not include embedded network providers or exempt sellers. Current as at March 2018. Privately-owned vertically integrated retailers is defined as non-Australian state-owned retailers. It should be noted that some foreign government-owned retailers are included- partially owned retailers such as Engie- France and Meridian- New Zealand, and wholly stated-owned through a parent company, Pacific Hydro- China.

⁷⁶ Ludlow, M., 'Shell wants to take on Big Three energy retailers in Australia', *Australian Financial Review*, 27 March 2018 and Macdonald-Smith A., 'AGL, Origin ripe for retail disruption', *Australian Financial Review*, 3 April 2018, p. 16.

In our 2017 Review the Commission noted that Origin Energy was the only remaining Big 3 to have upstream interests in upstream gas reserves. However, in late 2017, Origin Energy announced that it had sold its conventional upstream oil and gas business, Lattice Energy, to Beach Energy, which accounts for the majority of its production assets.⁷⁷ As part of the sale, Origin Energy secured access to a large portion of Lattice Energy's future east coast gas production under long-term gas supply agreements. Also, Origin Energy retained access to future Lattice Energy east coast gas from exploration permits in the Otway basin (in the event they progress to development).

3.9.3 Market participation and market shares in gas markets

To assess the levels of market concentration across gas markets, the Commission examined the same indicators as for electricity markets.

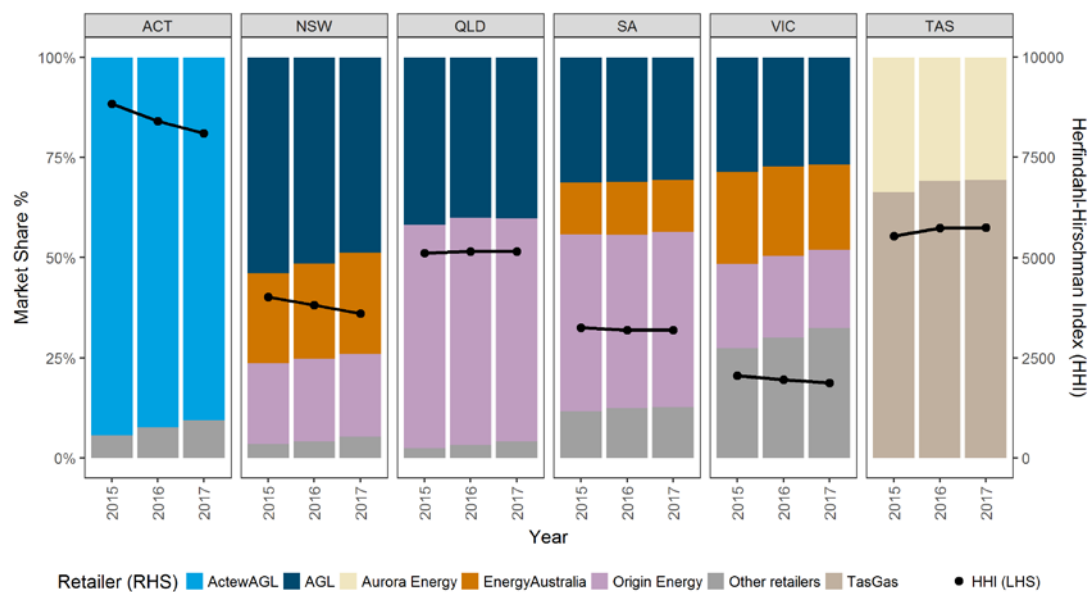
3.9.4 Changes in market share

As shown in Figure 3.8, over the short-term (between 2015 and 2017) the changes in gas retailers' market shares were relatively minor:

- In New South Wales, South Australia and the Australian Capital Territory retail gas markets have become less concentrated, although not at the rate seen by electricity. The combined share of Tier 2 retailers has increased, however the Big 3 still hold the highest market share.
- As with electricity:
 - Victoria continues to have a higher share of Tier 2 retailers compared to other jurisdictions
 - the Australian Capital Territory has seen a rapid decrease in HHI since 2015, which may be attributed to the strength of the competitors entering the market
 - the HHI for New South Wales has decreased.
- The HHI for Queensland and South Australia has remained somewhat static and has decreased marginally in Victoria.
- In Tasmania, a small market where consumers are served by one of two gas retailers, the HHI score has increased since 2015.

⁷⁷ The sale was effective from 1 July 2017. Origin Energy still owns some smaller production assets. For more information see: www.originenergy.com.au/about/investors-media/media-centre/lattice-energy-sale-reaches-completion.html.

Figure 3.8 Short-term changes in market share, 2015-2017 (gas, calendar year)



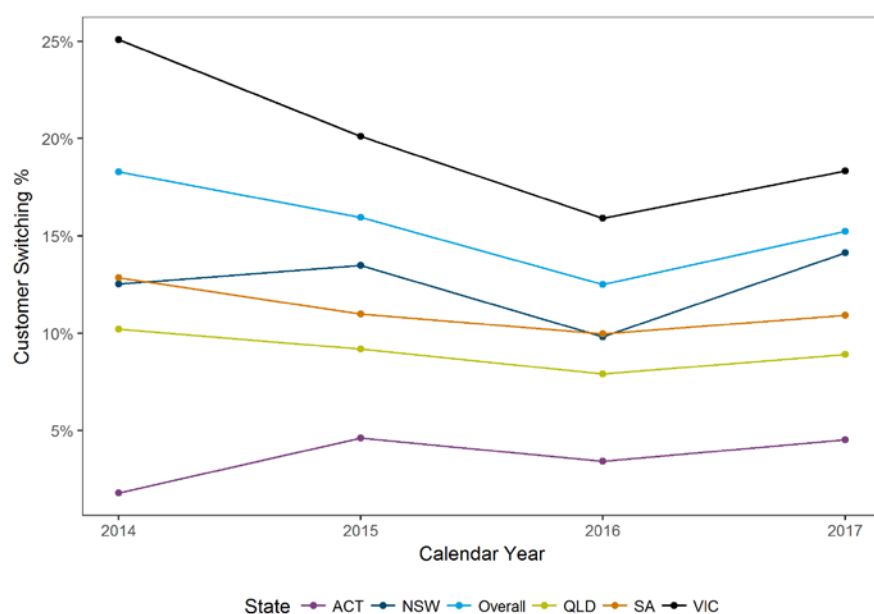
Source: AER, ESC, AEMO, AEMC analysis

As with previous reviews of retail competition carried out by the AEMC, data on longer term changes in the gas market are not available.

3.9.5 Consumer switching

Figure 3.9 below indicates that gas customer switching rates have started to increase since 2016 in all jurisdictions. The rates of switching are lower than they were three to four years ago, with the exception of New South Wales and the Australian Capital Territory.

Figure 3.9 Customer switching (gas, by year)



Source: AEMO, AEMC analysis. Note: data does not include where a customer has changed plans with its current retailer.

As seen in Figure 3.9, in 2017, the switching rate for gas was 15 per cent overall. The highest switching rate was in Victoria (deregulated in 2009) with 19 per cent. The switching rates for gas are slightly lower than those seen in electricity.

Also shown in Figure 3.9:

- The Australian Capital Territory has the lowest switching rates for gas at about four per cent (six per cent for electricity).
- Queensland's switching rate of nine per cent is significantly lower than the electricity rate of 25 per cent. This is likely to be due Alinta Energy's entry into the market was only for electricity.
- New South Wales remains fairly constant at about 14 per cent, although this is a four per cent increase from 2016. This may be due to price deregulation in July 2017.

As with our 2017 Review, the consumer and retailer surveys continue to suggest that bundling of gas and electricity are important for consumers. This may mean:

1. the barriers to switching for gas consumers are likely to be higher than for electricity given it is a single fuel for many consumers
2. as gas is a smaller portion of the overall energy costs, customers may be less engaged in that market and there may be less impetus for a customer to switch.

3.9.6 Retailer survey - gas market issues

As part of the retailer survey, the Commission also invited participants to make comment on the state of the gas market. Much of the focus in this year's responses was around the volatile political, regulatory and wholesale electricity environments and therefore discussion on the gas market was limited. However, several retailers discussed issues surrounding the wholesale gas market and barriers to entry. These are discussed below.

Wholesale gas markets

Some of the issues retailers cited with the wholesale gas market were:

- Many retailers noted that the market is tight and while gas is available, the prices are high, making it a difficult market. Several retailers noted that the access to, and price of, gas are the main factors influencing the level and intensity of competition going forward.
- One retailer commented that financial products are less prevalent in gas and therefore it is unable to manage its risk through financial or physical contracts. Also, that retailer suggested that gas contracts are usually long-term, but given the flux in the market, it is unsure if it will be able to sell the gas purchased.
- One retailer noted that there are more transport contracts coming back into the market, increasing competition compared to a year ago.

Barriers to entry

Many of the Tier 2 retailers noted they were not looking to expand into the gas market as it is a particularly difficult market due to the high price and lack of contracts. They claimed that it can take a long time to organise gas agreements. One retailer noted that when the Federal government intervened in April 2017 stating it may restrict the export of gas to ensure domestic supply, more gas contracts became available. However, that retailer stated that there is still a risk in being able to get access to gas contracts in New South Wales. Constrained gas supply is considered by one retailer as the main influence on competition over the next one to two years.

4 Retailer behaviour and pricing

Summary of key findings

- Price competition using conditional discounts remains the predominant form of competition in retail energy markets.
- As discounts are not from a standard base across retailers, high discounts do not necessarily mean lower bills. Conditional discounts also means significant penalties if conditions are not met. Victoria has the highest discount, with a pay on time discount up to 47 per cent off usage rates.
- There has been limited pricing tariff product innovation but some emerging simplified offers such as zero discount, fixed price and pre-paid products.
- After the price increases in 1 July 2017 and 1 January 2018, the annual bill for a representative consumer on a median market offer increased for electricity and gas across all jurisdictions, except South East Queensland:
 - the residential electricity bill increased the most in South Australia by \$316 and decreased in South East Queensland by \$70.
 - the residential gas bill increased most in the Australian Capital Territory by \$192 and the least in South East Queensland by \$14.
 - the business electricity bill increased most in the Australian Capital Territory by 28 per cent, and the least in Tasmania and South East Queensland by 5 per cent.
- Price dispersion, cited as a sign of effective competition, increased in 2018. However, dispersion in retail energy markets is driven by discounting, not optimal tariffs for customers.
- Businesses tend to pay more than residential consumers for each unit of electricity consumed, and tend to consume higher quantities of electricity. Businesses faced larger price increases than residential consumers.

Having assessed the structure of the electricity and gas markets in chapter 3, the report now focusses on the conduct of market participants. This chapter examines how retailers compete for customers through price and non-price offerings, including through their levels of customer service.

This chapter describes retailer behaviour and sets out the trends in:

- the types and structure of pricing offers
- pricing strategies and discounting
- pricing behaviour
- non-pricing products and services
- bill outcomes for residential and business consumers.

The analysis considers retailer conduct in relation to residential and business consumers, and in relation to electricity and gas markets.

4.1 Types of offers

4.1.1 Standing and Market offers

Generally, all residential and small business energy pricing offers are either a standing offer or a market offer.⁷⁸ The main difference between the two is the terms and conditions in the contract, and the resulting price. A standing or standard offer contract contains terms and conditions including:

- retailers must inform customers about price increases⁷⁹
- prices cannot change more than once every six months⁸⁰
- there is a minimum amount of time before customers can be disconnected if they do not pay their bill.

In jurisdictions with price regulation, standing offers also incorporate the jurisdictionally determined price. All retailers must offer standing offer contracts and these are often the 'default' contract when a consumer does not choose a specific plan.

When full retail contestability was introduced, retailers could also offer market contracts. Market offers allow retailers to determine most of the terms and conditions in the contract.⁸¹ Market offer contracts are generally significantly cheaper than standing offer contracts, and can provide some additional flexibility in tariff design. A very common feature of market offers are conditional discounts, such as pay on time or direct debit discounts. These discounts are generally off standing offer rates, which are not consistently set across retailers.⁸² Table 4.1 below shows the proportion of small customers on standing and market contracts.

⁷⁸ A customer may also consume energy under a 'deemed customer retail arrangement' in certain circumstances. The terms of such an arrangement are the terms and conditions of the retailer's standard retail contract. See Part 2, Division 9 of the NERL.

⁷⁹ The AEMC has received a rule change request from the Hon. Josh Frydenberg MP and the Hon. Don Harwin MLC on amendments to the notification of price changes on market and standing offers. The rule change suggests retailers must give 10 business days prior notification of any increase in prices on market offer contracts and just in advance of standing offer contracts. Currently the terms of notification under standing offer contracts only require retailers to notify customers after the price change has occurred.

⁸⁰ The full characteristics of a standing contract are set out in Part 2, Division 1 of the NERR.

⁸¹ Some conditions are still required to be part of the market contracts as per Part 2, Division 2 of the NERR.

⁸² The Commission made a rule change in May 2018 that prohibits retailers applying discounts to electricity rates in a market contract that are effectively higher than the retailers equivalent standing offer. For more details see www.aemc.gov.au/rule-changes/preventing-discounts-on-inflated-energy-rates.

Table 4.1 Proportion of small customers on standing and market offers in 2017

Jurisdiction	Electricity standing offer	Electricity market offer	Market change from 2016	Gas standing offer	Gas market offer	Market change from 2016
Queensland*	46%	54%	4% ↑	29%	71%	2% ↑
New South Wales	19%	81%	5% ↑	15%	85%	3% ↑
Australian Capital Territory	70%	30%	5% ↑	68%	32%	8% ↑
Victoria	8%	92%	2% ↑	8%	91%	1% ↑
South Australia	12%	88%	2% ↑	13%	87%	1% ↑
Tasmania**	90%	10%	1% ↓	N/A	N/A	N/A

Source: AER retail statistics, and ESC *Victorian Energy Market Report 2016-17*. Note: rounded figures may not sum to 100 per cent. Data as of December 2017 for all jurisdictions except Victoria which is for 2016/17 financial year. *Data for Queensland includes regional and South East Queensland. **While Tasmania has three gas offers, the AER does not publish data on offer customer numbers.

The proportion of customers on market offers has increased in all jurisdictions, with the exception of Tasmania, where there is limited differentiation between standing and market offers. In electricity, jurisdictions where price deregulation has been in place for longer, tend to have a higher proportion of customers on market contracts.

Given that the prices on standing offers are typically much higher than market offers (see section 4.5), as part of the Prime Minister's roundtable with the major energy retailers, seven larger retailers agreed to notify customers on standing offers and encourage them to move to a better market offer. Further, the Victorian Government met with the Big 3 retailers and encouraged them to provide a rebate to some customers on standing offers, making their bill equivalent to that of a market contract.⁸³

Given most residential customers on standing offers are with the Big 3 retailers, working directly with these retailers is a relatively efficient way to assist these customers.⁸⁴ Additionally, the Victorian Government is considering a recommendation from the Thwaites Review to abolish standing offers, and replace them with a BSO. This is discussed in section 2.2 of this report.

4.1.2 Bill breakdown

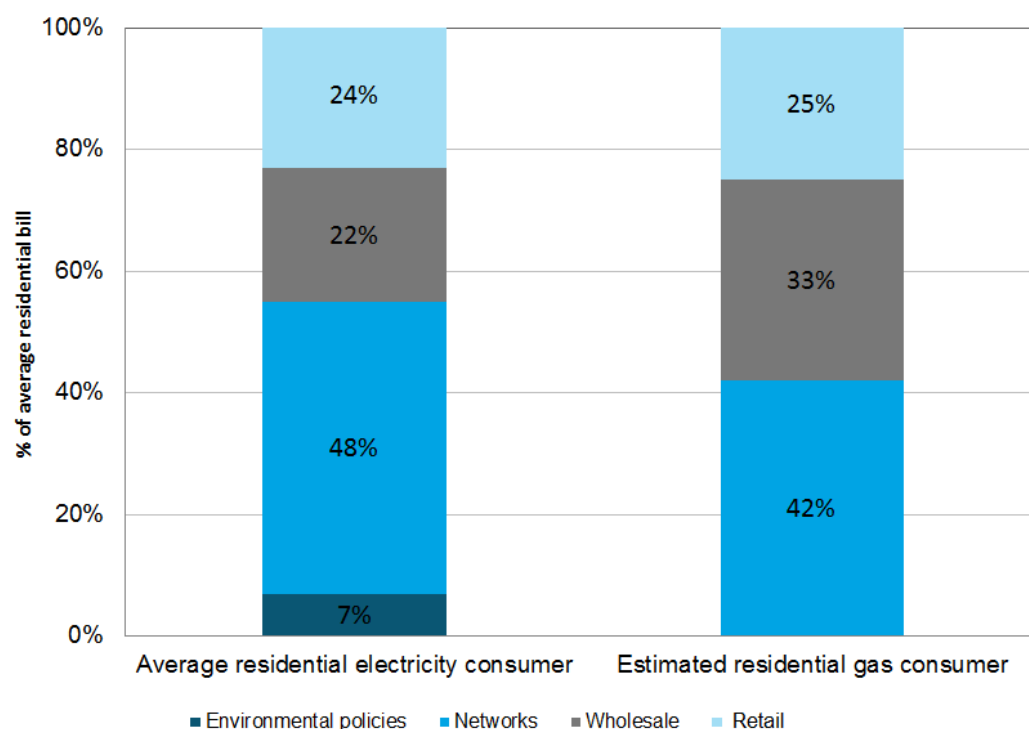
The prices and bills faced by consumers are one of the most visible and important expressions of competition in the retail energy market. However, a significant proportion of retail prices and bills are determined by upstream factors. Costs from

⁸³ Discussed further in section 2.3.

⁸⁴ For example, in Victoria 92 per cent of residential customers on standing offers are with the Big 3 retailers. Victoria Premier, 'Making things fair- Slashing power bills for Victorians' 26 November 2017, www.premier.vic.gov.au/making-things-fair-slashing-power-bills-for-victorians/.

wholesale energy, and transmission and distribution networks make up the majority of the final price that customers face. Figure 4.1 shows that nationally for electricity in 2016/17, wholesale and network costs made up 22 and 48 per cent of the bills, respectively.

Figure 4.1 Indicative estimate of components of average energy bills



Source: ACCC, *Retail Electricity Pricing Inquiry- Preliminary Report 2017*; Oakley Greenwood, *Gas Price Trends Review 2017*. Note: the gas graph shows national average bills while the electricity bill is for the NEM but does not include Tasmania in the NEM average.

Retailers can manage the wholesale energy component of prices through different wholesale pricing strategies, including a combination of:

- spot market purchases
- vertical integration
- hedging contracts.⁸⁵

A retailer's ability to manage their wholesale costs influences the retail price for their customers. Over the last few years, there have been pressures on supply in both the gas and electricity markets—in electricity due the retirement of generation, and in gas due to increased export demand through the Liquefied Natural Gas (LNG) facilities and the moratorium on new coal seam gas developments. This led to reduced liquidity in the contract market and higher contract prices, which in turn increased costs to retailers, particularly those that were not vertically integrated.

Transmission and distribution networks costs are the other major component of retail energy prices. In electricity, retailers have traditionally had limited scope to directly

⁸⁵ Vertical integration and contracting is discussed in greater detail in section 3.5 of the report.

change this component of retail prices.⁸⁶ However, retailers can indirectly influence this cost component by participating in network pricing regulatory processes, on behalf of consumers. To date, retailers have not actively engaged in these regulatory processes. This is in contrast to the telecommunications sector, where retailers have consistently participated in the regulatory proceedings of the National Broadband Network.

Transmission network service providers (TNSPs) make up around 18 per cent of total network costs.⁸⁷ TNSPs pass their regulated costs, generally in usage blocks, on to the distribution network service providers (DNSPs).⁸⁸ DNSPs account for around 82 per cent of total network costs. DNSPs take the transmission costs, and add in their own regulated costs which are passed on to retailers.⁸⁹ DNSP pricing structures have traditionally taken the form of a fixed and variable component which retailers generally adopt and pass on to consumers.⁹⁰

The choice by retailers to pass on these network pricing structures mean they face less risk on estimating customer behaviour, but it also complicates pricing structures for consumers. Retailers that do offer innovative or simplified tariffs may need to add the risk they are taking in estimating customer behaviour into their prices.

Additionally, with the introduction of competition in metering in December 2017, retailers now have the responsibility of choosing the provider of meters and metering services for electricity consumers.⁹¹ This change should allow retailers to influence the metering component of a traditional distribution network cost, noting this is a relatively small proportion of the overall bill. The number of smart meters installed will also increase with the introduction of competition in metering. This, alongside the further rollout of cost-reflective network tariffs by DNSPs, should provide retailers greater ability to innovate and structure tariffs in the way consumers want.

Gas retailers also tend to price their services according to the structure of gas transmission and distribution networks. As in electricity, while this removes retailer risk in estimating consumer behaviour, it has led to minimal pricing innovation.⁹²

⁸⁶ The one potential exception to this is ActewAGL, which is both a retailer and a DNSP (operating as Evoenergy since 1 January 2018).

⁸⁷ Broader analysis is provided in the AEMC's *2017 Residential Electricity Price Trends - Final Report*, 18 December 2017.

⁸⁸ Usage blocks refers to a step pricing structure where different usage charges are applied for different levels of consumption.

⁸⁹ Broader analysis is provided in the AEMC's *2017 Residential Electricity Price Trends - Final Report*, 18 December 2017.

⁹⁰ The fixed and variable component differs in magnitude depending on whether the retail customer is on a time-of-use, controlled load or flat rate tariff. Additionally, the DNSP determines the number of blocks and pricing for those blocks for flat rate tariffs. These different tariff types are explained in more detail in section 4.1.3.

⁹¹ Competition in metering has been implemented in all NEM states besides Victoria which has delayed implementation until 2021. For more information on competition in metering see: www.aemc.gov.au/rule-changes/expanding-competition-in-metering-and-related-serv.

⁹² Again, this is with the potential exception of ActewAGL, which is both a retailer and a distribution network. Origin Energy also owns some gas transmission assets.

4.1.3 Retail tariff structures

There are several tariff structures available to consumers on both market and standing offers. Most retail energy tariffs have two parts:

- a fixed daily supply charge that is charged regardless of the amount of energy consumed or time of day
- a variable energy charge, that is charged for each unit of energy consumed.

Retailers generally offer different tariff structures for the variable energy charge component of the retail tariff. As noted in section 4.1.2, most retailers pass on the tariff structures offered by networks, including:

- *Block tariffs* - the most common tariff structure, block tariffs charge different per unit prices for different consumption levels. For example, one block could be 0-1,000kWh, with a different charge then applying for consumption beyond that level of usage. Block tariffs can be inclining or declining, where the energy charge increases or decreases, from one block to the next block. In its simplest form, this tariff can be a single block, where one price is charged for all electricity consumed. These tariffs can also vary from summer to winter if a seasonal tariff structure is in place. Most gas retail tariffs use this structure.
- *Time-of-use tariffs* - these have up to three separate energy charges that vary by time of day (peak, off-peak, and shoulder). The duration and timing of these periods is determined by the DNSP, although the retailer is not obliged to use these same periods, or even mirror these tariff structures. This tariff type can have multiple blocks and can vary by seasons.
- *Demand tariffs* - are an emerging tariff type that has an energy charge, as well as a per-kW 'demand' charge, which is based on a consumer's peak demand (in kilowatts). Demand tariffs have previously been offered to large consumers, but are increasingly being offered to small customers. Networks have driven the rollout of demand tariffs as a form of cost-reflective network pricing. Both time-of-use and demand tariffs are only available to electricity consumers that have an interval meter.⁹³ These are generally not available for gas.

All of the described tariffs can be paired with a controlled load.⁹⁴ A controlled load is the electricity used by appliances, such as electric hot water systems, which are metered separately. A controlled load tariff is typically a low rate tariff, as these appliances operate during the hours of low demand.

Some retailers have innovated in the tariff structures they offer, including:

- Fixed payment offers - where the customer pays a predetermined fixed amount each month regardless of usage. These are more common amongst businesses. Some retailers, like Origin Energy, are offering these to residential customers.

⁹³ An interval meter includes types 1 to 5 meters, capable of recording data in half an hour blocks.

⁹⁴ Controlled load can be referred to using different names such as *dedicated circuit*, *off peak*, *Tariff 41* in Tasmania or *Tariff 31* or *Tariff 33* in Queensland.

- Subscription tariffs - where customers pay a subscription fee, and lower fixed and variable rates. This is currently only being offered by Mojo Power.

Additional innovation in terms of payment options is discussed in section 4.2.5.

While the industry has offered a range of tariff options, the complexity of tariffs may be overwhelming for some consumers. For example, some retailers have chosen to minimise their risk by passing through complex network pricing structures, and in some cases, retailers are adding up to three usage blocks above those specified by networks.

As discussed in chapter 5, many consumers do not feel confident in making informed decisions about energy. This is understandable given they have to understand their consumption level and profile, and then based on this, compare differences in tariff types, block rates and sizes, discount levels, controlled load rates and potentially varying solar feed-in tariffs. For example in electricity, a household in Sydney's Ausgrid network can choose from up to 446 offers.⁹⁵ This makes it more difficult for consumers to comprehend and compare tariffs, and contrasts with mobiles, where retailers manage complex costs and provide simple priced offerings.

During interviews, retailers noted there was an increasing desire from customers for simple, easily understood tariffs. This desire has resulted in all of the Big 3 retailers removing seasonal tariffs in South Australia over the past year. This change has also been assisted by some DNSPs that have moved to single block residential tariffs.⁹⁶

4.2 Pricing strategies and discounts

The 2017 Review highlighted that the predominant form of price competition between retailers involved discounting, in particular conditional discounting.⁹⁷

To provide a sense of the prevalence of discounting, as at March 2018, of the 5,940 electricity and gas market offers that are generally available across NEM-based regions:

- 57 per cent have at least one conditional discount
- 25 per cent have at least one unconditional discount⁹⁸
- only 20 per cent of market offers have no discounts attached to them.⁹⁹

Retailers usually offer discounts from their standing offer rates. As standing offers are inconsistent across retailers, it is difficult to understand the significance of one retailer's

⁹⁵ Based on data from Energy Made Easy; includes block, time-of-use, dual-fuel and controlled load offerings. Residential electricity offers in other states are: ACT (ActewAGL) – 135, South East Queensland – 314, Regional Queensland (Ergon) – 14, South Australia (SAPN) – 134, Victoria (CitiPower) – 362, Tasmania (TasNetworks) – 2.

⁹⁶ This move also includes the DNSPs of Ausgrid and Endeavour Energy.

⁹⁷ AEMC, *2017 AEMC Retail Energy Competition Review*, FINAL, 25 July 2017, Sydney, p. 108.

⁹⁸ Note: a single tariff could have both conditional and unconditional discounts attached to it, so the above figures are not mutually exclusive.

⁹⁹ These percentage are based on data from Energy Made Easy and Victorian Energy Compare.

discounting level compared to others.¹⁰⁰ These discounting practices remain the main form of retail competition, despite there being emerging pockets of tariff innovation and competition on product and services.

4.2.1 Types of discounts offered

As discussed, the majority of discounts are conditional upon the customer meeting certain requirements. These discounts can apply to either a total bill or the usage rates under a particular offer. In the market, the current conditional discounts relate to customers:

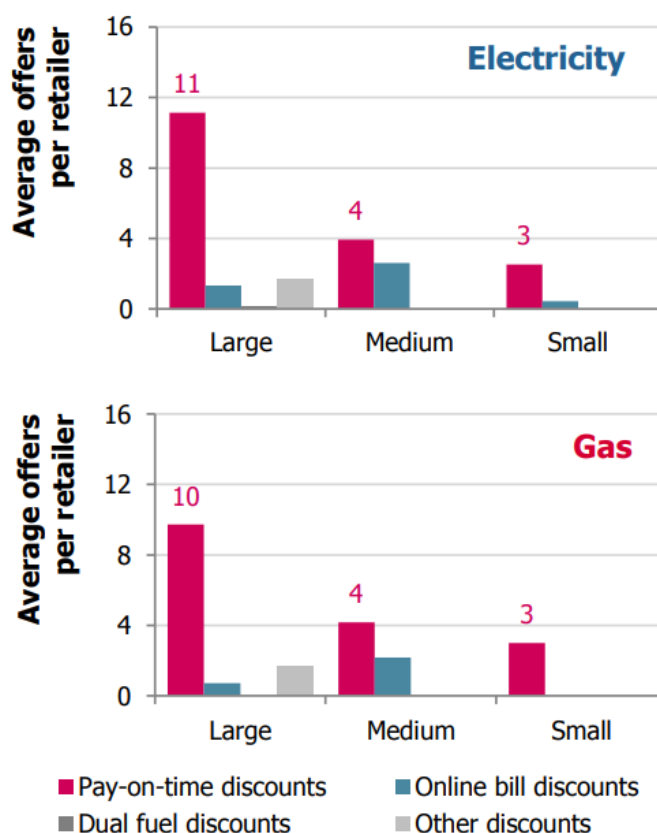
- paying on time
- only receiving bills online
- paying via an approved payment method (e.g. via direct debit)
- getting a discount for having electricity and gas with the same retailer (dual fuel).

One retailer, 1st Energy, also now offers a discount to a customer on the condition they do not switch away (i.e. “If you change retailer at your current supply address, there will be no discount on the final bill”).¹⁰¹ In a recent report, the ESC showed the type and average number of discount plans retailers of different sizes in Victoria offer (see Figure 4.2). The figure suggests retailers heavily favour pay-on-time discounts over other forms of discounting, and this is particularly true for large retailers.

¹⁰⁰ Further information on this is found in section 4.1.1.

¹⁰¹ 1st Energy, Energy Price Fact Sheet NSW Electricity Residential Effective 13 April 2016 Market Offer - 1st Saver - Residential 20, viewed 14 March 2018, see www.1stenergy.com.au/wp-content/uploads/2015/08/Ausgrid-RES-20.pdf.

Figure 4.2 Average number of Victorian retailer market offers by discount type



Source: ESC Victorian Energy Market Report 2016-17, p. 24. Note: the ESC use the following classification of large, medium and small retailers: *Large* - AGL, EnergyAustralia, Origin Energy, Red Energy/Lumo Energy, Simply Energy. *Medium* - Click Energy, Dodo Power and Gas/Commander Power and Gas, Powershop, Powerdirect, Alinta Energy, Momentum Energy. *Small* - all other retailers.

If the customer meets all the conditions, then the headline discount is achieved. If the conditions are not met, then the discounts are not applied and the customer can end up paying substantially higher bills under the market offer, and effectively face rates equivalent to the standing offer.

One notable difference between energy and other industries, such as insurance, is that 'loyalty' discounts for staying with a retailer for a period of time are relatively uncommon. Conversely, as discussed in section 3.3.4, win-back offers have become increasingly prevalent in the industry and almost act as a 'disloyalty discount' where customers are encouraged to shop around and switch.

In a potential sign of change in the industry, in April 2018, EnergyAustralia changed one of its headline market offers to an unconditional or guaranteed discount. The tariff, launched in all jurisdictions EnergyAustralia operates in, has one of the highest generally available discount rates that EnergyAustralia offer.

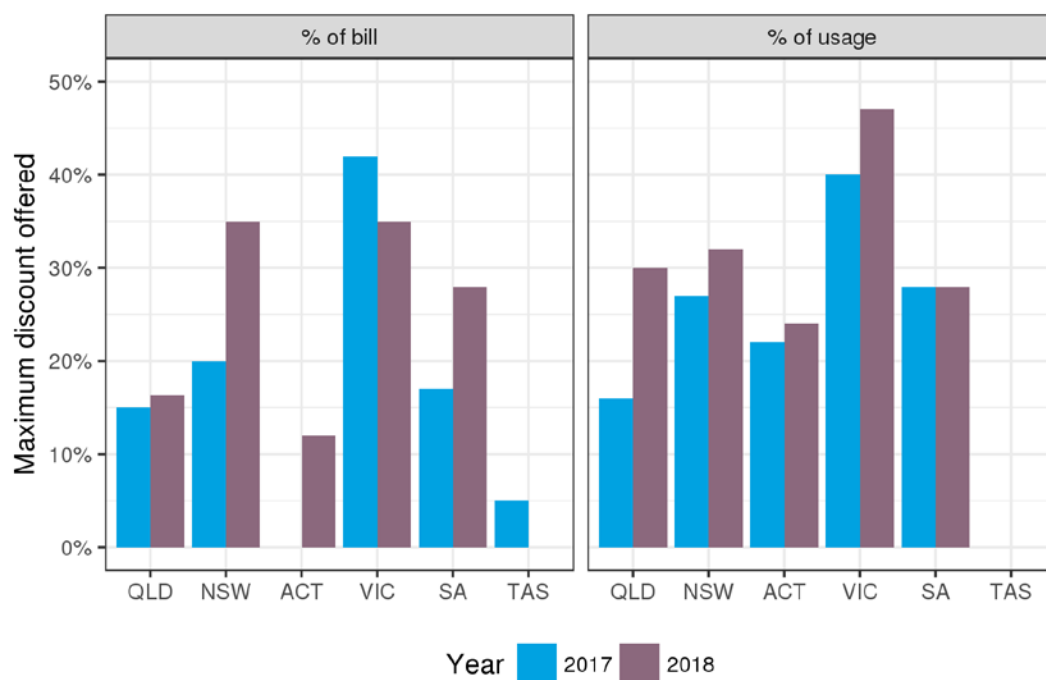
4.2.2 Trends in Discounts

Previous reviews have noted that consumers can achieve substantial discounts on the retail contracts offered in the market.¹⁰² Figure 4.3 below shows, as of March 2018:

- the highest total bill discounts available on market offers were in Victoria and New South Wales at 35 per cent, and South Australia at 28 per cent
- the highest discount offered on the usage component was in Victoria at 47 per cent, followed by New South Wales at 32 per cent and South East Queensland at 30 per cent.

Except for discounts on total bills in Victoria, the maximum discount offered has either remained the same or increased in all regions from 2017 to 2018. The broad trend of increasing discounts highlights the importance of discounting to retailer customer acquisition and retention efforts.

Figure 4.3 Maximum discount offered - electricity

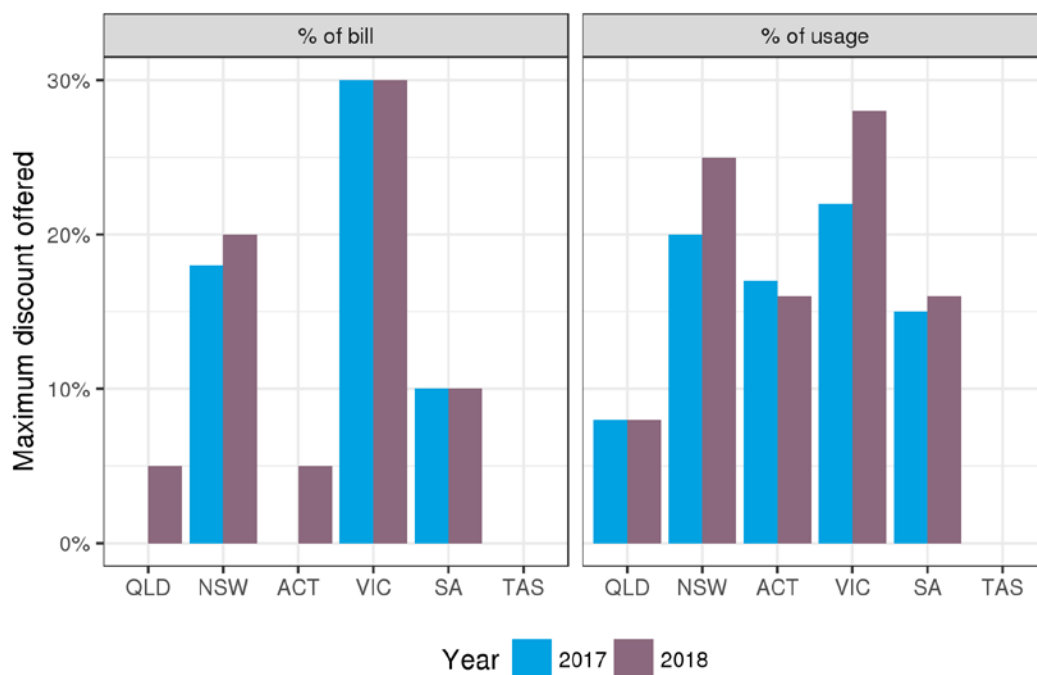


Source: AEMC analysis based off Energy Made Easy and Victorian Energy Compare, extracted 21 March 2018. Note: discounts are off varying base rates and do not include win-back or other 'below the line' offers.

A similar dynamic has played out in retail gas markets. Figure 4.4 below shows the maximum discount offered in each state for both discounts on total bills and discounts on usage rates. Except for discounts on total usage in the Australian Capital Territory, the maximum discount offered has either remained the same or increased in all states from 2017 to 2018.

¹⁰² AEMC, 2017 AEMC Retail Energy Competition Review, FINAL, 25 July 2017, Sydney, p. 121

Figure 4.4 Maximum discount offered - gas



Source: AEMC analysis based off Energy Made Easy and Victorian Energy Compare, extracted 21 March 2018. Note: discounts are off varying base rates and do not include win-back or other 'below the line' offers.

Restricted offers

The above analysis excludes 'restricted offers', that are not generally available. These offers are only available to a specific subset of customers, for example members of a participating automobile club or organisation.¹⁰³

As discussed in section 3.3.4, many retailers currently make win-back offers to existing customers that have opted to switch to another retailer. Significantly, win-back offers are not generally available and therefore unavailable for comparison on commercial or government price comparison websites. The Commission understands the discount available on a win-back offer may be determined on a variety of factors including:

- the rate offered by a competing retailer¹⁰⁴
- whether or not a customer requests a particular rate¹⁰⁵
- the consumption level of a customer¹⁰⁶
- the customer's previous history with a particular retailer.¹⁰⁷

¹⁰³ Simply Energy, Retail Pricing Information Guideline, Submission to Draft Retail Pricing Information Guideline, March 2018.

¹⁰⁴ Origin Energy, Draft Retail Pricing Information Guidelines – Version 5, January 2018, Submission to Draft Retail Pricing Information Guideline.

¹⁰⁵ Origin Energy, Draft Retail Pricing Information Guidelines – Version 5, January 2018, Submission to Draft Retail Pricing Information Guideline.

¹⁰⁶ Red Energy/Lumo Energy, Draft Retail Pricing Information Guidelines – Version 5, January 2018, Submission to Draft Retail Pricing Information Guideline.

In a submission to the AER, Simply Energy suggested it considers more than 10 criteria when considering whether or not to offer a customer a win-back offer.¹⁰⁸

The Commission also notes that the AER's revised RPIG, which comes into effect in August 2018, includes a redefinition of what constitutes a generally available offer.¹⁰⁹ This may increase the number of offers captured by existing government price comparison websites, expanding the pool of offers captured by this analysis in the future. However, it will not reveal discounts available under restricted offers, which may include win-back offers.

4.2.3 Discount levels of retail customers

The AEMC requested data from retailers on the achievable discount levels of their customers. The following analysis uses this data to analyse the trends in discount levels across jurisdictions for the Big 3 and Tier 2 retailers over the past year. The cross-sectional data of market and standing offers from retailers provides a detailed insight into what discounts are currently available to customers of the Big 3 and some Tier 2 retailers.¹¹⁰

The analysis found:

- there is a significant proportion of customers on zero discounts, which is notably higher than the proportion of customers on standing offers
- discounts vary considerably between jurisdictions
- discounts are higher on electricity than gas
- Tier 2 retailers have fewer customers on zero discount.

Big 3 retailers

As noted, discounting is the predominant form of price competition. Figure 4.5 below illustrates the considerable variance of discounts offered to Big 3 retail electricity customers between states. Discounts tended to be higher in regions with more retailers and that have been deregulated longer.

Figure 4.5 shows the discount levels for Big 3 electricity retailers are:

- highest in Victoria with over half of Big 3 customers on discounts of 26 per cent or greater, and 11 per cent on discounts greater than 35 per cent
- next highest in New South Wales where over half of customers are on discounts of between 11 and 25 per cent, with four per cent of customers on above 26 per cent

¹⁰⁷ Red Energy/Lumo Energy, Draft Retail Pricing Information Guidelines – Version 5, January 2018, Submission to Draft Retail Pricing Information Guideline.

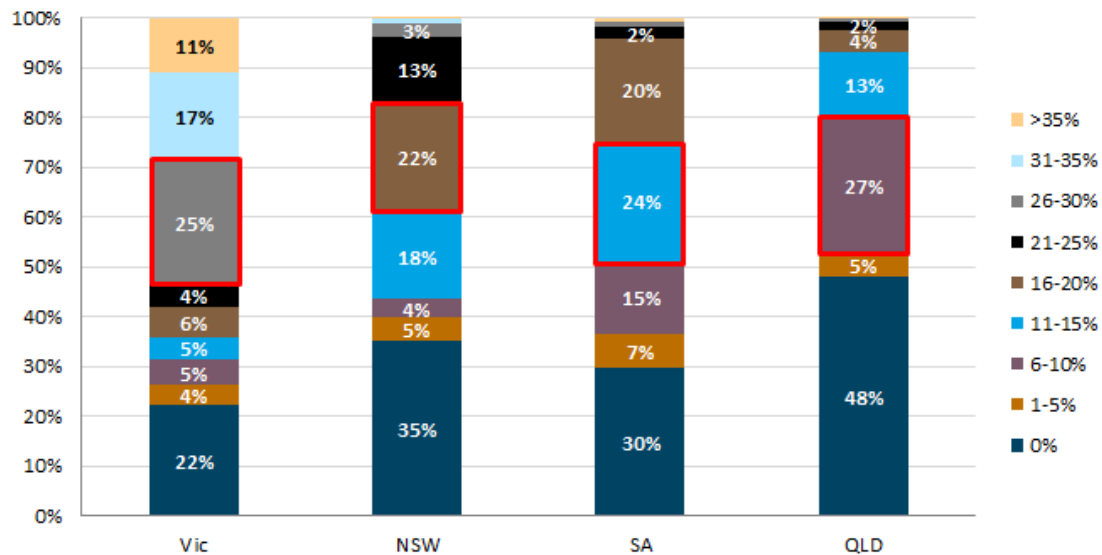
¹⁰⁸ Simply Energy, Draft Retail Pricing Information Guidelines – Version 5, January 2018, Submission to Draft Retail Pricing Information Guideline.

¹⁰⁹ AER, *Retail Pricing Information Guidelines - Version 5*

¹¹⁰ Note: this analysis does not reflect the actual discounts received by customers, rather the discounts available on their specific plans.

- third highest in South Australia, where over 60 per cent of customers are on discounts between six to 20 per cent, with only four per cent of customer receiving discounts above this level
- lowest in Queensland, where price deregulation in South East Queensland was introduced in July 2016, with 40 per cent of customers on discounts between six to 15 per cent.

Figure 4.5 Discount levels of Big 3 retailer customers - electricity

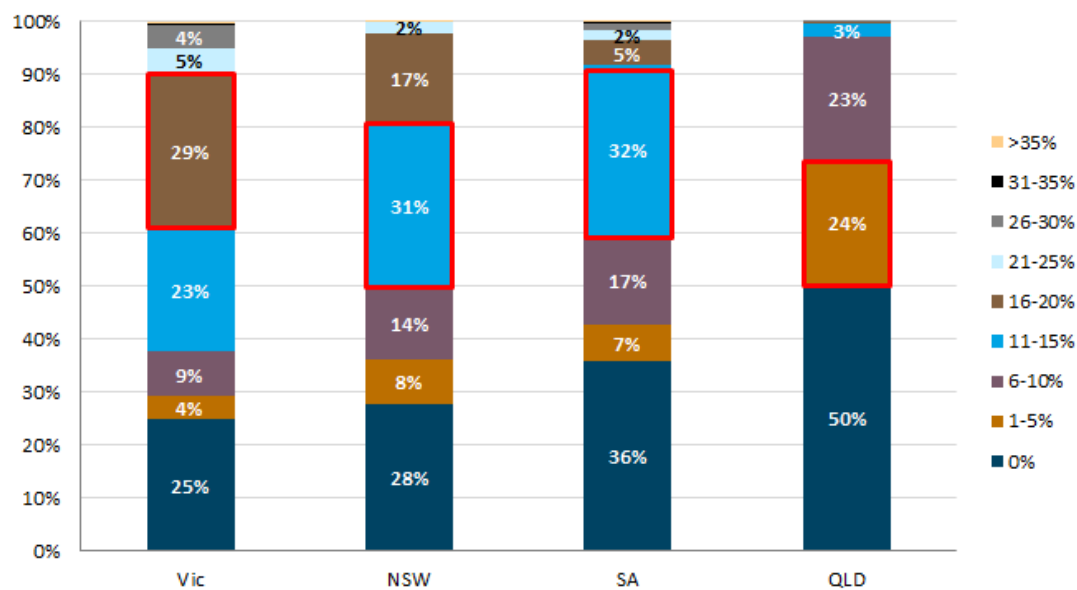


Source: Confidential data provided by retailers. Note: Discounts shown are weighted-average based on customer numbers of each retailer. Discounts levels shown are not received discounts, rather discounts listed on customer plans. The most common non-zero discount level in each state is highlighted with a red outline. Chart includes, and does not distinguish between, discounts off total bill and discount off usage. Queensland figures are for the whole state, however Big 3 customers are predominantly in South East Queensland.

Gas discounts follow the same inter-regional variance as electricity discounts, with the highest discounts available in Victoria, and the lowest discounts available in Queensland, as illustrated in Figure 4.6. The most common discounts levels were:

- 16 to 20 per cent in Victoria which has the highest level of household gas consumption
- 11 to 15 per cent in New South Wales and South Australia
- one to five per cent in Queensland, which has the lowest level of household gas consumption.

Figure 4.6 Discount levels of Big 3 retailer customers - gas



Source: Confidential data provided by retailers. Discounts shown are weighted-average based on customer numbers of each retailer. Discounts levels shown are not received discounts, rather discounts listed on customer plans. The most common non-zero discount level in each state is highlighted with a red outline. Chart includes, and does not distinguish between, discounts off total bill and discount off usage. Queensland figures are for the whole state; however Big 3 customers are predominantly in South East Queensland.

Discounts available on gas products were markedly lower than those available on electricity products. This could be due to lower levels of gas consumption, lower nominal gas bill amounts and fewer gas retailers with a comparatively lower level of retail competition.

The data on market and standing offers from retailers also showed a significant proportion of customers on zero discounts for both electricity and gas. It was the most common discount band for:

- electricity - in New South Wales, South Australia and Queensland
- gas - in South Australia and Queensland.

Some of these customers are on standing offers, while the rest are most likely customers on expired market offers and a small proportion of customers on zero discount plans. Table 4.2 below illustrates the proportion of Big 3 customers on zero discounts compared with the total proportion of customers on standing offers in each region. Noting that the Big 3 retailers have a higher proportion of standing offer customers as the incumbent retailers, the data suggests there are a significant portion of their customer base that are disengaged, and potentially paying more than necessary for their energy consumption.

Table 4.2 Big 3 customers on zero discount and small customers on standing offers

Jurisdiction	Electricity		Gas	
	Proportion with zero discount	Proportion on standing offers	Proportion with zero discount	Proportion on standing offers
Victoria	22%	8%	25%	8%
New South Wales	35%	19%	28%	15%
South Australia	30%	12%	36%	13%
Queensland*	48%	46%	50%	29%

Source: AER, ESC and confidential data provided by retailers. Note: the standing offer proportions apply to all small customers in each region, whereas the zero discount figures only apply to Big 3 retailers.

*Queensland figures are for the whole state, however Big 3 customers are predominantly in South East Queensland, while there are a large proportion of standing offer customers in regional Queensland.

Tier 2 retailers

The AEMC received data from several Tier 2 retailers, which revealed some similarities and differences to the Big 3 retailers. Whilst not enough data was submitted to publish charts and maintain anonymity, several anecdotal observations can be made from the data, including:

- Tier 2 retailers have significantly less customers on zero discounts, compared to the Big 3 retailers, which is possibly due to Big 3 retailers typically having more customers on standing offers
- discounts vary across jurisdictions in a similar fashion to the Big 3 retailers, with the highest discounts in Victoria and the lowest in Queensland
- smaller Tier 2 retailers have less variation in the discounts their customers are on, compared to bigger retailers
- the Big 3 retailers have some customers on plans with higher discount levels compared to Tier 2 retailers.

4.2.4 Issues with discounting

Discounts can provide customers with considerable benefit and savings. However, the practice of discounting can also have a negative impact on consumers, because:

- Some consumers may choose a product based on high, conditional discounts, but if they fail to meet any of the conditions, they may be penalised significantly. Discussions with consumer groups have suggested that most customers tend to overestimate their capacity to pay their bills on time. This creates an increasingly

significant 'late payment fee' for these customers.¹¹¹ Further, customers that are willing, but unable, to pay their bills on time are punished in a manner similar to a 'regressive tax'.¹¹²

- Retailers focus their advertising on percentage discount rates, and consequently many consumers will choose their retailer and plan based on the level of this discount rate. However, the base rates from which these discounts apply vary between retailers and plans, which make it difficult for consumers to compare offers. Additionally, as noted above, discounts can either apply to the whole bill or just to the usage component, adding an additional layer of complexity for a consumer trying to make an informed decision.

As mentioned in section 2.3, one of the actions coming from the Prime Minister's roundtables with retailers in August 2017 was changes to the AER's RPIG. Released in April 2018 and coming into effect in August 2018, the RPIG requires that retailers publish a Basic Pricing Information document which will include, amongst other things, a comparison pricing table. The comparison pricing table will set out an estimated annual bill, in dollars, for the relevant plan for three consumption profiles. This will ensure a customer is provided with consistent and clear information and therefore improve their ability to compare discounted offers.

As noted in section 4.1.3, there are an emerging number of retailers that are offering all or some of their tariffs as zero-discount offers. These types of offers will improve a consumers' ability to comprehend and compare offers. However, whether these products are successful and are provided more broadly, other than by a small number of retailers, is still to be determined.

Retailer opinions on the evolution of discounting

During interviews with the AEMC, retailers shared their views on the future of discounting as a pricing strategy in electricity and gas markets. There were mixed views.

Many acknowledged problems associated with the practice. In particular, it causes customer confusion and mistrust. However, they also noted some significant issues in moving away from marketing percentage discounts, including:

- consumers are used to discounting and continue to respond to the practice
- when consumers are comparing offers it is difficult to compare no discount offers
- the risk associated with moving to no discounts is losing customers in the short-term until the market moves away from the practice.

¹¹¹ In most industries, such as banking, telecommunications and water, these fees are limited to the costs to the retailer of the late payment. In energy, whilst late payment fees may be banned in some jurisdictions, there is no such limitation on pay-on-time discounts.

¹¹² A regressive tax impacts consumers with a lower capacity to pay more than it impacts higher wealth consumers. For example flat rate taxes are often described as regressive because they represent a higher proportion of income for low income consumers compared to high income consumers.

Despite this, there are several retailers who have completely moved away from discounts or are offering non-discount products within their portfolio. This group includes Energy Locals, QEnergy, Momentum Energy, ERM Business Energy, Pooled Energy and Tango Energy. Some of these retailers noted favourable customer reactions to their pricing and a modest uptake of such offers.

A majority of retailers declared they are not ready to “be like Momentum” and move away from discounts entirely.

4.2.5 Other pricing strategies and innovation

When surveyed, most retailers noted that customers:

- were mainly interested in simplified tariffs
- have increased price and cost awareness, following retail price increases in July 2017 and in December 2018, and the heightened political and media attention..

However, retailers also noted that tariff simplicity can be deceptive given the inputs, such as usage, into a bill.

While discounting remains the predominant way of competing on price, there has been some limited pricing and tariff innovation in the electricity retail market. Some of the newer payment and tariff structures are:

- The ‘no discounts’ tariffs, offered by Momentum Energy, Tango Energy, Energy Locals, Pooled Energy, Mojo Power, ERM Power, AGL and Lumo Energy.¹¹³
- Mojo Power’s subscription model, where a customer pays a fixed monthly amount in order to get lower usage rates. Mojo Power has indicated this plan is suited to medium to high energy users.¹¹⁴
- Origin Energy’s Predictable Plan which guarantees a residential electricity or gas customer a fixed bill amount per month for a 12-month period irrespective of monthly variations in usage.¹¹⁵
- EnergyAustralia’s Secure Saver plan, which guarantees residential electricity and gas customers their usage rates and supply charges will not increase for a two year period. This product includes a pay-on-time discount.
- Powershop, and more recently AGL, have offers that allow customers to obtain a discount for prepaying for electricity.

Some retailers indicated that more products and services would be released in the future. This is being enabled by cost-based network tariffs and the capabilities and increasing roll out of smart meters, through competition in metering. However, customers without smart meters may not be able to access the same range of innovative products and services.

¹¹³ AGL and Lumo Energy have one no-discount tariff offering in Victoria each, whilst the other retailers only offer no-discount tariffs.

¹¹⁴ This offer was discussed in the 2017 Review.

¹¹⁵ This offer was also discussed in the 2017 Review.

Despite the introduction of some new innovative tariff options, the level of tariff innovation still remains low and retailers noted that many of the 'new tariff structures' have achieved limited consumer take-up. For example, several stakeholders indicated low consumer acceptance of demand tariffs, because:

- the idea is confusing for customers
- if the customer does not understand the offer, they could be worse off than if they were on a standard block tariff.

4.3 Pricing behaviour

This section explores the pricing behaviour of retailers by analysing:

- the average prices paid by consumers in New South Wales, Victoria, Queensland and South Australia
- how average pricing differs between Big 3 retailers and other retailers in Victoria and New South Wales
- how pricing behaviour has changed over the past year.

The analysis on prices paid by consumers here is based on data that was voluntarily provided by several retailers on total revenue from and electricity sold to residential consumers. The analysis only focuses on electricity as insufficient data was provided by retailers on gas.

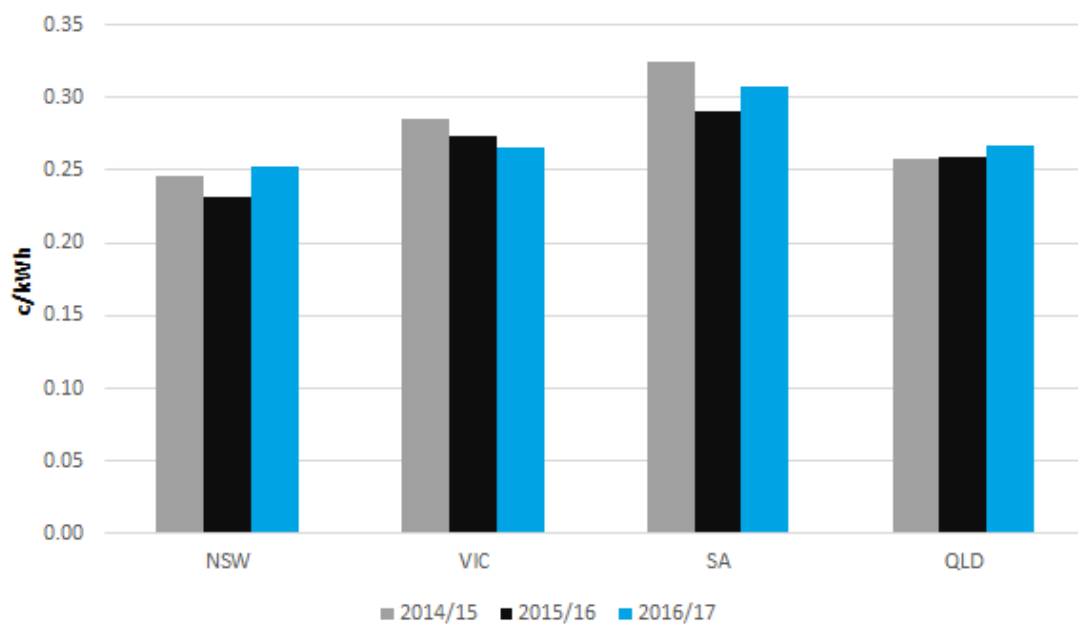
As the data collected here only goes up until 2016/17, it does not capture the recent significant price increases that occurred from 1 January 2018 in Victoria and from 1 July 2017 in other NEM jurisdictions. For a discussion of those increases see section 4.5.

4.3.1 Average prices paid by consumers

Figure 4.7 depicts the weighted-average prices paid for electricity across New South Wales, Victoria, Queensland and South Australia based on data from several retailers that service the majority of customers in each jurisdiction.¹¹⁶

¹¹⁶ Queensland figures mainly consist of consumers in the South East Queensland market, but may include some regional Queensland customers.

Figure 4.7 Average prices paid by residential electricity consumers



Source: Confidential data provided by retailers. Prices shown are weighted average based on residential customer numbers of each retailer in each jurisdiction. Annual data for one retailer is calendar year. One retailer was unable to separate residential and small business prices, so their mass market figure was included in the analysis. NSW figures include Australian Capital Territory customers.

The figure shows that:

- average prices paid by the majority of consumers increased in 2016/17 in all jurisdictions except Victoria, where the price decreased by three per cent
- after prices fell from 2014/15, the largest increase from 2015/16 to 2016/17 was in New South Wales, where prices increased by nine per cent.

4.3.2 Comparison of prices paid - Big 3 and other retailers

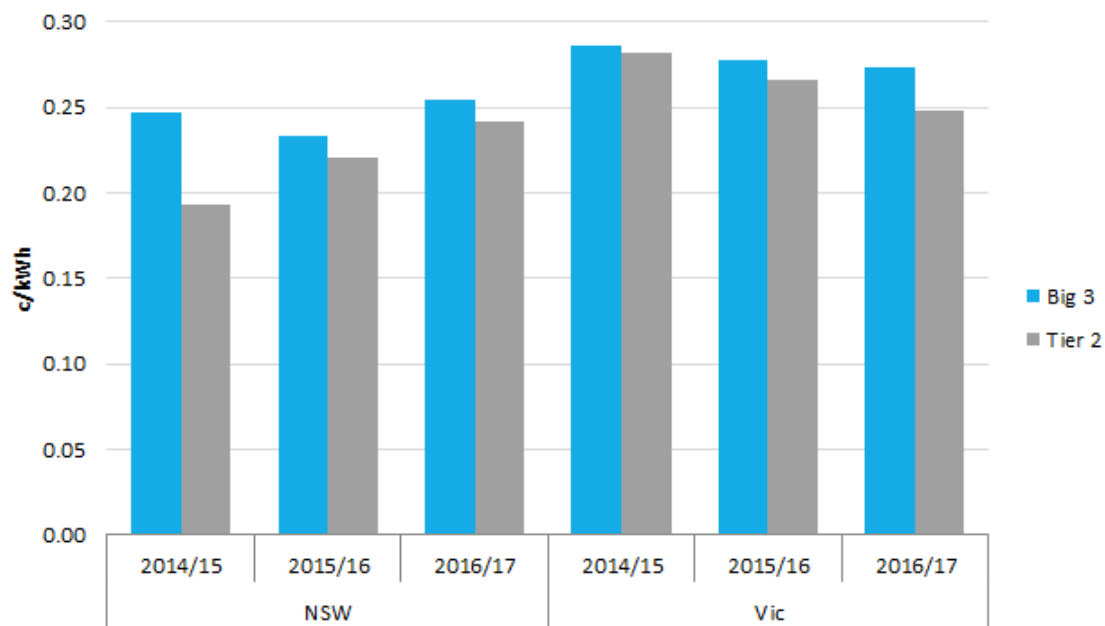
Figure 4.8 compares the average prices paid by customers of Big 3 retailers and Tier 2 retailers for Victoria and New South Wales.¹¹⁷

The figure shows that across these two jurisdictions customers of Tier 2 retailers paid lower prices on average, than Big 3 customers. This difference in prices paid by customers could be driven by a range of factors, including different pricing strategies. However, one of the main drivers is likely to be the higher proportion of customers on standing offers and on expired market offers of the Big 3 retailers, illustrated in Table 4.2 above.

Further, the gap between Big 3 and Tier 2 prices reduced from 22 per cent in 2014/15 to five per cent in 2016/17 in New South Wales, while it increased over the same period in Victoria from two per cent in 2014/15 to 10 per cent in 2016/17.

¹¹⁷ The analysis focuses on these two jurisdictions because the AEMC received the most consistent data from retailers for these jurisdictions.

Figure 4.8 Average price paid - Big 3 and Tier 2



Source: Confidential data provided by retailers. Prices shown are weighted average based on residential customer numbers of each retailer in each jurisdiction. Annual data for one retailer is calendar year. One retailer was unable to separate residential and small business prices, so their mass market figure was included in the analysis. NSW figures include Australian Capital Territory customers.

4.3.3 Changes in pricing behaviour in 2017/18

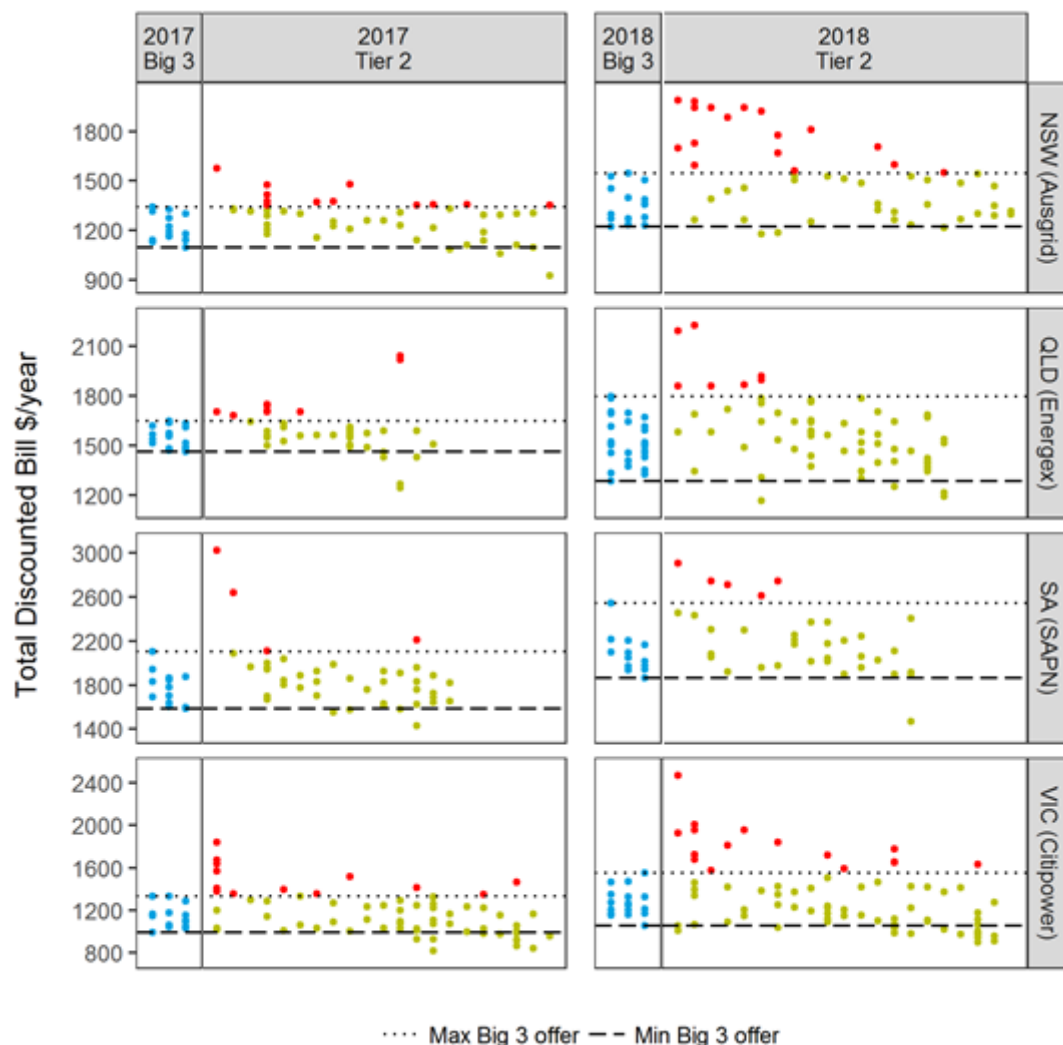
As noted, the data voluntarily provided by retailers was only up until 2016/17. It therefore did not capture the significant price increases that occurred in July 2017 and January 2018. To show this, the Commission has compared offers between the Big 3 retailers and other retailers in New South Wales, Victoria, South East Queensland, and South Australia in January/February 2017 and in March 2018. By applying the consumption levels for the representative consumer from the AEMC's *2017 Residential Electricity Price Trends – Final Report*, the change in bills have been calculated for customers over the 2017 and 2018 period.

Figure 4.9 shows that between 2017 and 2018:

- customer bills and prices have increased significantly for all retailers across most jurisdictions, the exception being South East Queensland
- there has been a change in the market pricing dynamic between the Big 3 and Tier 2 retailers
 - Tier 2 retailers' pricing plans now result in a much wider spread of bills compared to the Big 3
 - a significant proportion of offers by the Tier 2 retailers are now well above the maximum Big 3 levels, in all jurisdictions except South East Queensland.

The larger increase in bills or prices for Tier 2 retailers versus the Big 3 retailers in 2018 may reflect that Tier 2 retailers are more exposed to the wholesale market volatility and higher forward contract prices over the past year.

Figure 4.9 Change in Big 3 and Tier 2 discounted bills



Source: AEMC analysis from Energy Made Easy (5 January 2017 and 21 March 2018) and Victorian Energy Compare (16 February 2017 and 20 March 2018). Data shows discounted bills for residential customers on market offers for a representative consumer in each state. Each column of points represents one retailer. Each retailer is ordered in descending order based on average discounted bill. The dotted lines represent the range of bills for Big 3 retailers. Red dots represent Tier 2 offers above the highest Big 3 offer.

4.4 Products and services

4.4.1 Non-pricing offers and incentives

Consistent with previous trends, retailers have continued to focus on non-price incentives as a way to attract and retain customers. Sign up incentives, such as movie tickets,¹¹⁸ airline points,¹¹⁹ smart technology¹²⁰ and retailer-specific reward schemes¹²¹ remain prevalent. Some retailers offer other home products with financing options which may also increase the 'stickiness' of customers, including heating and

¹¹⁸ Offered by Simply Energy.

¹¹⁹ Offered by EnergyAustralia and AGL.

¹²⁰ AGL offers an amazon echo as a sign up bonus on some plans.

¹²¹ Offered by AGL and Lumo Energy.

cooling products,¹²² solar panels and batteries. Chapter 7 discusses retailers' interactions with solar and battery products in greater detail.¹²³ Additionally, Lumo Energy offers a 'renter friendly' plan that waives one disconnection and connection fee per year, to increase the likelihood of retaining a customer during a move.

Over the past year, amaysim Energy and Sumo Power have launched bundled energy, phone and internet services. Additionally, Pooled Energy, which was established in 2013, has bundled pool services with electricity tariffs. During the retailer interviews, a retailer that offers bundled services noted that whilst it was difficult to send combined bills or sign customers up to multiple services at the same time, they were generally able to cross-promote new services to existing customers.

Some retailers are running trials and offering products that draw on data from smart meters. Recently AGL ran a trial for its Energy Insights Report that uses smart meter data to estimate the energy consumption of different appliances in the household.¹²⁴ The trial of 3,000 customers with smart meters broke down energy consumption in categories such as heating, cooling, lighting, refrigeration, etc. and provided customers with personalised feedback on which appliances were consuming the most energy, and how they could be reduced. AGL launched the Energy Insight Report as a free service to all its Victorian customers with smart meters in May 2018, and intends to rollout the program to customers in other states by late 2018.¹²⁵

Another retailer, Energy Locals, donates half of its profit to charity.¹²⁶ Customers can choose to donate a share of the profit from their bill to up to 22 different charities. It also promises customers that it will "never increase your prices for profit".¹²⁷

4.4.2 Customer service

Retailers can vary the level of customer service they offer to consumers as part of their value proposition. Unfortunately, there is currently no *industry-wide* metrics like a net promoter score that can be used to objectively assess the change in the customer service levels of retailers over time.¹²⁸

One metric that can provide an insight into an element of customer service is the average time customers have to wait on the phone before speaking to a representative of the retailer, illustrated in Figure 4.10 below.

¹²² Offered by Origin Energy.

¹²³ Offered by several retailers, including AGL, Origin, EnergyAustralia, Red Energy.

¹²⁴ For more information see: www.agl.com.au/about-agl/media-centre/asx-and-media-releases/2018/january/agl-energy-insights-helps-customers-to-take-charge-of-their-energy-usage.

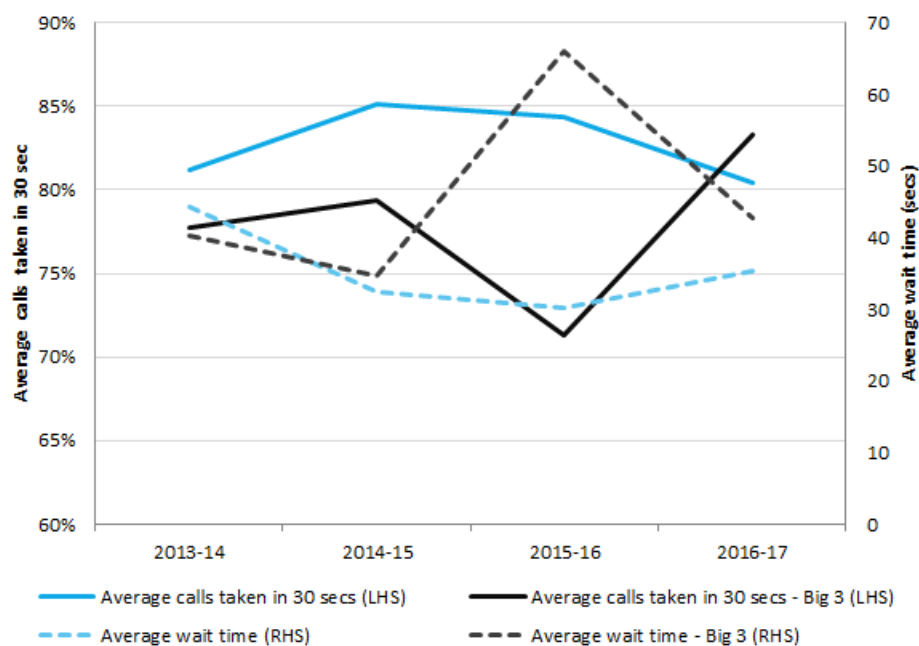
¹²⁵ For more information see: www.agl.com.au/campaigns/youreenergyinsights.

¹²⁶ For more information see: energylocals.com.au/why-energy-locals/.

¹²⁷ For more information see: energylocals.com.au/how-it-works-for-customers/.

¹²⁸ A net promoter score is a common metric used in industry to assess the level of satisfaction a customer has with a retailer. The metric is, in essence, whether a consumer would recommend the company to a friend. A number of retailers do use this assessment tool, but it is not a consistently used and available metric.

Figure 4.10 Average wait time and calls taken in 30 seconds



Source: AER Performance Report on Compliance and Performance of the retail energy market 2013/14-2016/2017

Note: Simple averages presented. Data includes both electricity and gas. Figure does not include data from Victoria. Where a retailer uses an automated telephone system, the time to answer is measured from when a customer chooses to speak to an operator. In all other cases, the time commences from when the call is received by the switchboard.

Figure 4.10 shows the average wait time and proportion of calls answered within 30 seconds has not changed greatly across the industry. Some retailers have made a concerted effort to keep control of this aspect of their business. For example, Diamond Energy has consistently had 100 per cent of calls taken in 30 seconds and zero seconds wait time for the past four years.

Other retailers have not prioritised this aspect of their customer service. For example, ActewAGL has an average wait time of 228 seconds and only 53 per cent of calls taken within 30 seconds. The Big 3 retailers have generally performed in line with the rest of the industry. The exception being Origin Energy, which until last year has had low rates of calls being picked up within 30 seconds (around 60 per cent). Last year it increased to 72 per cent.

While telephone-based interactions are an element of customer service, other communication channels such as websites and mobile applications are becoming increasingly important. These channels commonly address another element of customer service - the ease with which customers can access their usage and billing data. Most retailers now have an online portal where customers can access their usage data and pay their bills. However, only a limited number of retailers provide mobile applications that can be used by customers. There are only four retailers with full mobile applications available for customers on Android phones,¹²⁹ and seven retailers with

¹²⁹ These retailers are AGL, Powershop, Mojo Power and Pooled Energy.

applications for iPhones.¹³⁰ However, Simply Energy, Lumo Energy and Alinta Energy all have mobile applications for their reward programs, as discussed in section 4.4.1.

4.5 Bill outcomes for residential consumers

This section outlines the changes in residential bills for a representative consumer across NEM-based jurisdictions from 2017 to 2018. In doing so, it shows in greater detail the impact on consumers of price increases that were captured in section 4.3.3. The section provides an overview of:

- the magnitude of bill changes
- the potential savings a customer could make moving from a median standing offer to the cheapest market offer
- changes in dispersion of prices over time.

The analysis in this section is based on publically available data from Energy Made Easy, Victorian Energy Compare and the St Vincent De Paul Tariff tracker reports. Bills have been constructed based on the 'representative consumer' on a block tariff in each jurisdiction.¹³¹ The DNSP of the capital city in each region was used in the analysis as a proxy for changes in bill outcomes for that region. All discounts are assumed to be realised for market offers.

4.5.1 Changes in standing and market offer bills—electricity

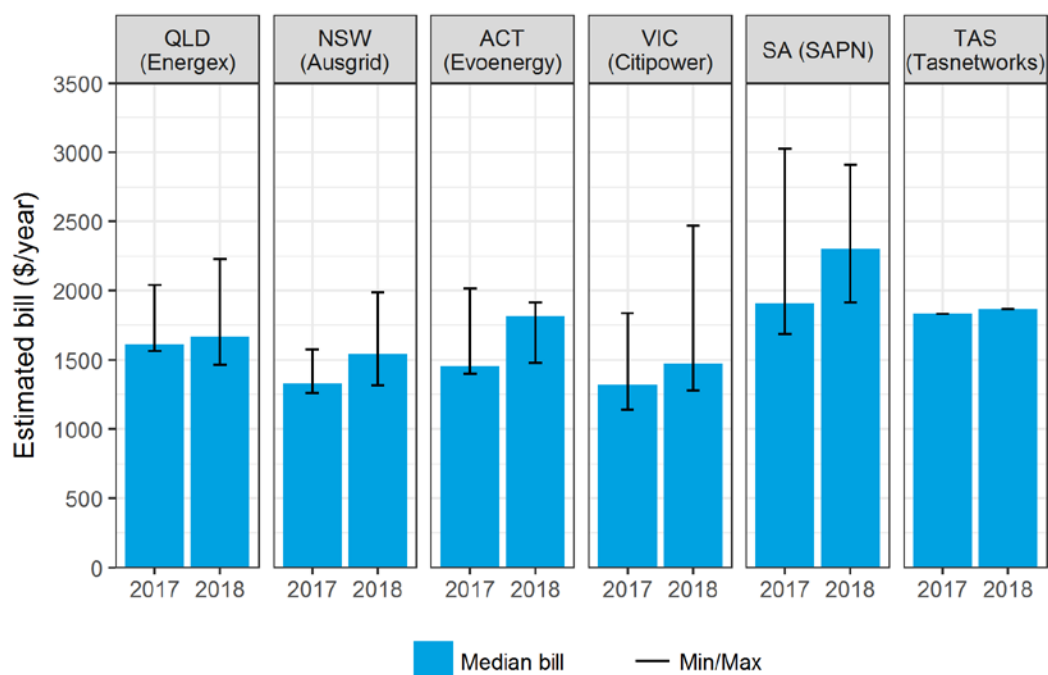
Standing offers

The median standing offer has increased across all NEM jurisdictions, except Tasmania, over the past year. Figure 4.11 below shows the bill for a consumer on the median standing offer, and the minimum and maximum standing offers from 2017 and 2018.

¹³⁰ These retailers are AGL, Origin Energy, ERM Power, Simply Energy, Powershop, Mojo Power and Pooled Energy.

¹³¹ The full set of the representative electricity consumption levels in each state are available from AEMC, *2017 Residential Electricity Price Trends - Final Report*, p. 62. Gas consumption levels are based on the AER, *Bill Benchmarking Report*, 2017.

Figure 4.11 Median standing offer electricity bills—residential



Source: Energy Made Easy (accessed 5 January 2017 and 21 March 2018) and Victorian Energy Compare (accessed 16 February 2017 and 20 March 2018). Note: consumption levels vary between regions.

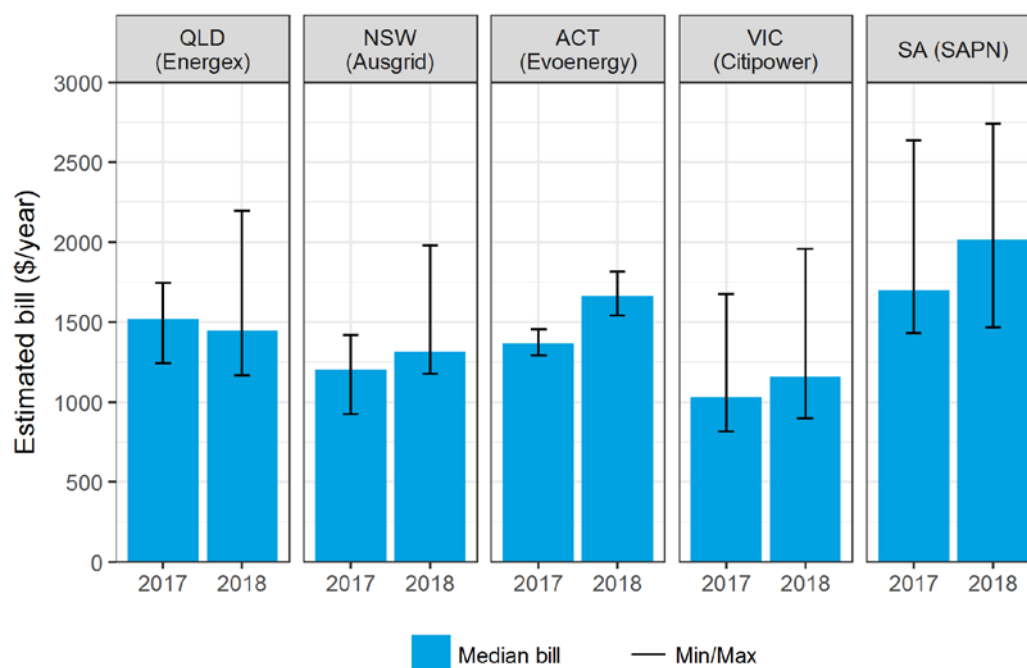
Figure 4.11 reveals:

- The largest median bill increase were in the Australian Capital Territory (Evoenergy) and in South Australia (South Australian Power Network (SAPN)), which experienced a 25 and 20 per cent increase respectively.
 - The main driver for bill increases was the large increase in wholesale costs across NEM-based regions that occurred in 2016/17.
 - The relatively modest bill increase in South East Queensland (the Energex region) is due to lower wholesale costs in Queensland. Wholesale costs there decreased significantly after the Queensland Government's direction to Stanwell from June 2017 (as discussed in Chapter 2).
- The spread between the maximum and minimum standing offers increased in New South Wales (Ausgrid), Victoria (CitiPower) and South East Queensland (Energex), while it decreased in the Australian Capital Territory (Evoenergy) and South Australia (SAPN).
 - The increases in spread were driven by significant increases in the maximum standing offers, which outpaced increases in the minimum standing offers, which remained relatively stable in all DNSPs across jurisdictions, except South Australia (SAPN).

Market offers

Both the median market offer bill and range of bills for customers increased over the past year in all DNSPs across jurisdictions, except South East Queensland (Energex).

Figure 4.12 Median market offer electricity bills—residential



Source: Energy Made Easy (accessed 5 January 2017 and 21 March 2018) and Victorian Energy Compare (accessed 16 February 2017 and 20 March 2018). Note: consumption levels vary between regions.

Figure 4.12 reveals:

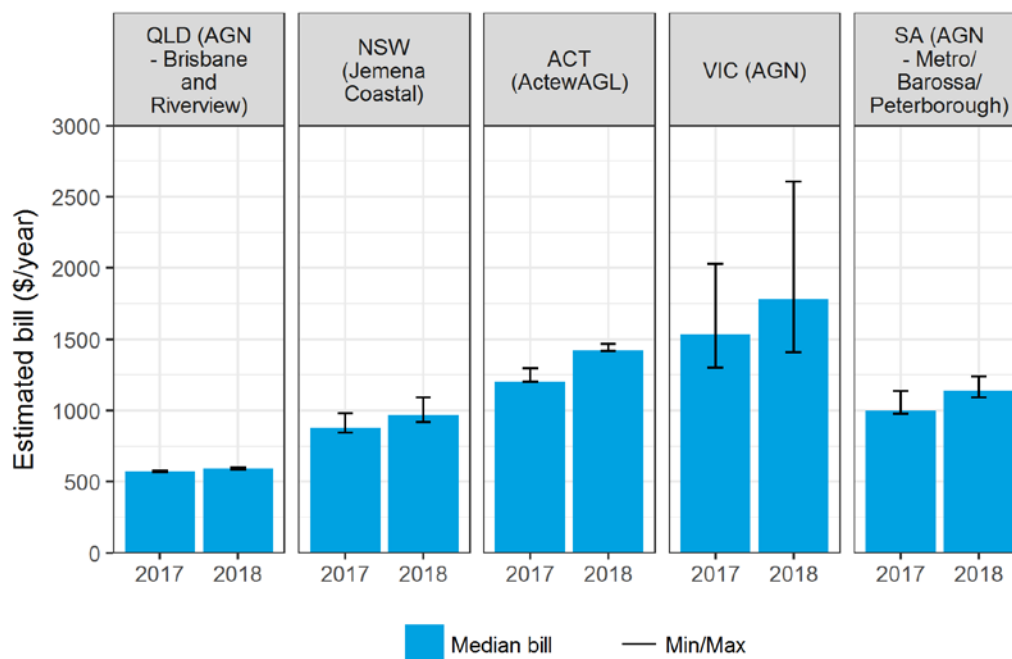
- As with standing offers, the largest percentage bill increase in the median market offer, occurred for customers in the Australian Capital Territory (Evoenergy) and South Australia (SAPN), at 22 and 19 per cent respectively. The only area with a percentage decrease in bills was in South East Queensland (Energex), at a decrease of five per cent.
- The range of bills for customers on market offers increased across all networks, particularly those with price deregulation:
 - Despite the increase in the range, the median offer remained in the lower portion of the range of bills, suggesting that the bulk of bills cluster on the lower end of the spectrum with a few outliers at the upper end
 - The best market offer remained around the same level in Victoria (CitiPower), South East Queensland (Energex) and South Australia (SAPN), suggesting an engaged consumer in these regions may have been able to avoid the effects of the increase in price that occurred over the past year.

4.5.2 Changes in standing and market offer bills—gas

Standing offers

The median standing offer gas bill increased in all regions as shown in Figure 4.13 below.

Figure 4.13 Median standing offer gas bills—residential



Source: Energy Made Easy (accessed 5 January 2017 and 21 March 2018) and Victorian energy compare (accessed 16 February 2017 and 20 March 2018). Note: consumption levels vary between regions.

Figure 4.13 reveals:

- The largest percentage bill increase in the median standing offer was in the Australian Capital Territory and Victorian DNSPs, increasing by 18 and 16 per cent respectively.
 - While there has been a general increase in standing offers for gas bills, the increase in the median standing offer has not been as high as in electricity.
- The spread between the maximum and minimum standing offer increased in Victoria and South Australia, while staying at similar levels in the other regions.

Interestingly, the spread of standing offers in Victoria was much larger than in New South Wales, despite having a similar number of retailers. Differences in the spread of offers could potentially be due to structural differences in the markets, including:

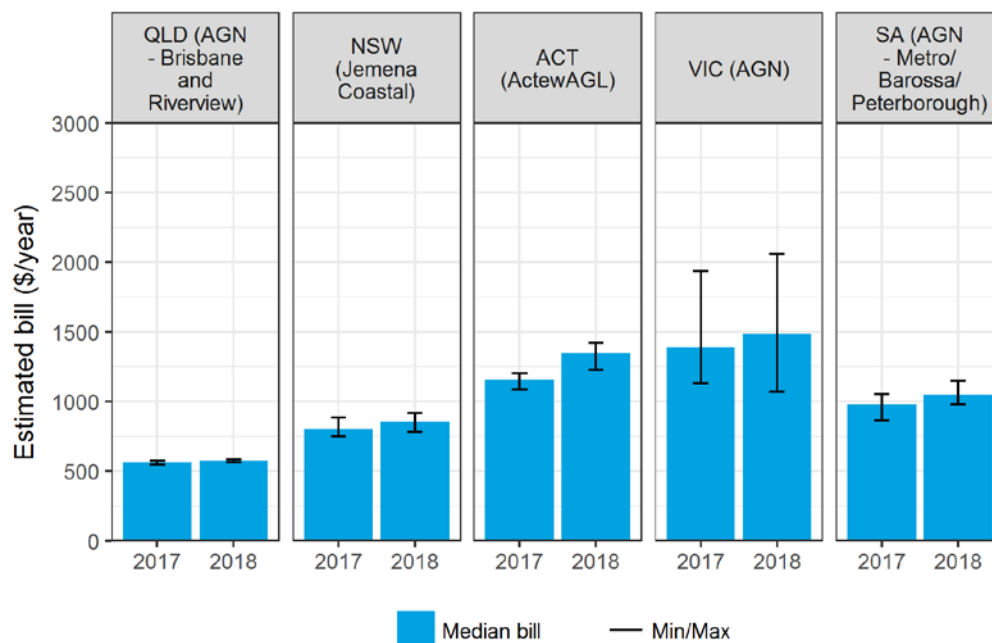
- larger market size in Victoria - gas is consumed in larger quantities and by more consumers in Victoria
- different wholesale market conditions - Victoria has a different wholesale gas market (market carriage) than the rest of the east coast (contract carriage)¹³²
- price deregulation for retail gas markets only came about more recently in New South Wales in July 2016.

¹³² The types of transportation contracts and services available to a shipper will depend on whether the pipeline operates under a market or contract carriage model. Under a market carriage model, participants cannot reserve firm capacity on a pipeline. Under a contract carriage model, transportation services are provided through bilateral contracts which specify a certain amount of firm capacity that will be provided to the shipper.

Market offers

Like the standing offers for gas, the median market offer consumer bill increased in all regions.

Figure 4.14 Median market offer gas bills—residential



Source: Energy Made Easy (accessed 5 January 2017 and 21 March 2018) and Victorian energy compare (accessed 16 February 2017 and 20 March 2018). Note: consumption levels vary between regions.

Figure 4.14 reveals:

- The largest percentage bill increase was in the Australian Capital Territory and Victoria, where the median bill increased by 19 and 16 per cent respectively.
- While the range of bills increased in most areas, they did not increase as much as standing offer bills.
 - Customers in Victoria, South East Queensland and South Australia were able to get a slightly cheaper bill if they switched to the cheapest market offer.

4.5.3 Switching from standing to market offers

Table 4.3 illustrates the proportion of electricity residential customers on standing offers in each jurisdiction and the potential bill reduction they could achieve by switching from the median standing offer to the cheapest market offer. The table also shows the annual savings from switching for both 2017 and 2018. The analysis only assesses block tariffs, as it is the most common tariff type. The results for Tasmania are not explored here, because Aurora only offers a single block tariff to residential consumers.¹³³

¹³³ The share of residential customers on standing offers in each network is sourced from the share of small customers on standing offers from AER retail statistics. This is a fair indication of residential customers on standing offers due to their statistical dominance in the small customer category.

Table 4.3 Annual savings from moving from the median standing offer to cheapest market offer — residential

Network area	Percentage of small customers on standing offers	Savings - 2017 (\$/year)	Savings - 2018 (\$/year)
ACT (Evoenergy)	70%	\$164	\$273
NSW (Ausgrid)	19%	\$405	\$365
VIC (CitiPower)	8%	\$507	\$574
QLD (Energex)	46%	\$369	\$504
SA (SAPN)	12%	\$481	\$832

Source AER, ESC, Energy Made Easy, and Victorian Energy Compare. Note: this figure includes regional Queensland which has regulated prices. Standing offer proportions include both residential and business and apply to the whole state/territory.

The bill savings available for a residential customer moving from a median standing offer to the cheapest market offer increased in all areas, except in New South Wales. This indicates the increase in median standing offers has been greater than the increase in the cheapest market offers. Further, those jurisdictions with larger proportions of standing offer customers have lower levels of savings associated with moving from the median standing offer to the cheapest market offer.¹³⁴

As noted in section 4.1.1, conditional discounts for market offers are typically off standing offer rates. As such, the saving figures in Table 4.3 may be viewed as the potential penalty paid by customers if they fail to achieve the conditional discounts throughout the year. This reiterates the previously discussed draw backs of conditional discounting, as discussed in section 4.2.

Table 4.4 below shows similar figures as outlined above for residential gas customers. The difference between the median standing offer bill and the best market offer bill has increased in all jurisdictions over 2017 and 2018. The largest difference was in Victoria, as the large range of offers presented in Figure 4.13 and Figure 4.14 indicate.

¹³⁴ Queensland appears to be the exception to this, but the standing offer numbers presented in the table are for the whole state, where the savings numbers are just for South East Queensland.

Table 4.4 Annual savings from moving from the median standing offer to cheapest market offer —residential gas

Network area	% of small customers on standing offers	Savings - 2017 (\$/year)	Savings - 2018 (\$/year)
ACT (Evoenergy)	68%	\$117	\$192
NSW (Jemena Coastal Network)	15%	\$128	\$185
VIC (Australian Gas Networks)	8%	\$401	\$716
QLD (AGN - Brisbane and Riverview)	29%	\$27	\$31
SA (AGN Metro/ Barossa/ Peterborough)	13%	\$137	\$161

Source AER, ESC, Energy Made Easy, and Victorian Energy Compare. Note: this figure includes regional Queensland which has regulated prices. Standing offer proportions include both residential and business and apply to the whole state/territory.

4.5.4 Price dispersion

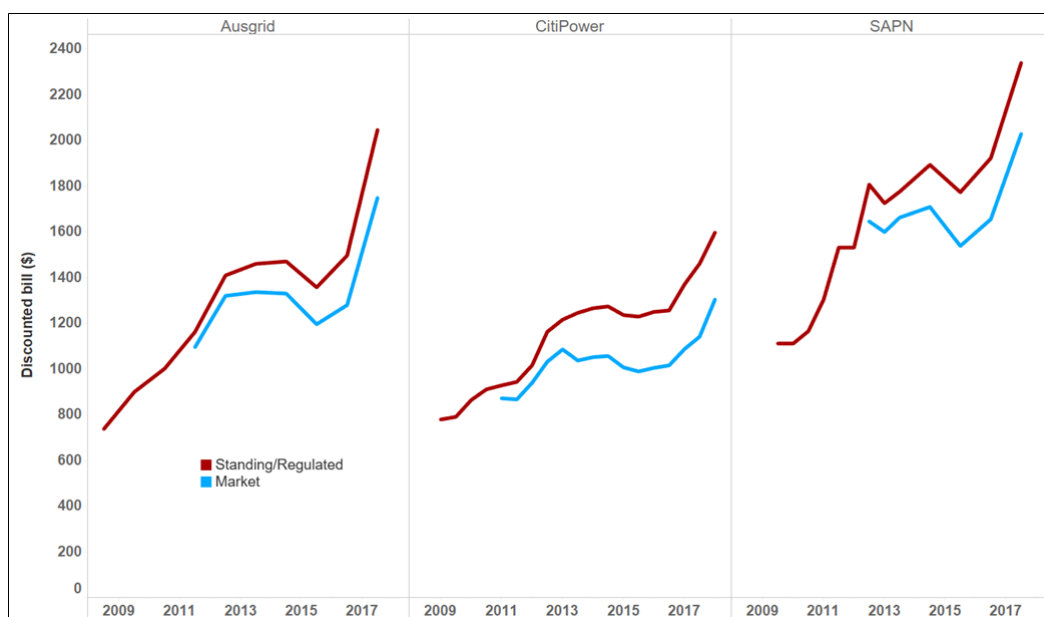
Price dispersion refers to the spread of prices offered in the market for a given product, and provides some insight into how retailers compete with different pricing offers. Higher levels of price dispersion are often cited as a sign of effective competition in a market, reflecting tariffs that are tailored to meet specific customer preferences.¹³⁵ However, if customers are not on optimal tariffs — that is, there is misalignment between the market segmentation and the offer dispersion — then competition is not delivering effective results. In such markets, the competitive 'noise' from many offers and retailers confuse customers and detract from their ability to make decisions best suited to their circumstances.

Figure 4.15 below shows the change in the average standing offer and average market offer bills for the representative electricity consumer over time using data from *The Tariff-Tracker Project*.¹³⁶

¹³⁵ See Nelson, T, et al. (2018) 'Price dispersion in Australian retail electricity markets', *Energy Economics* Vol. 70, pp.158-169.

¹³⁶ The Tariff-Tracker Project is produced by the St Vincent de Paul Society and Alviss Consulting. Bills were calculated using the representative consumption levels from the AEMC's 2017 *Residential Electricity Price Trends - Final Report*.

Figure 4.15 Comparison of average market and standing offers electricity bills



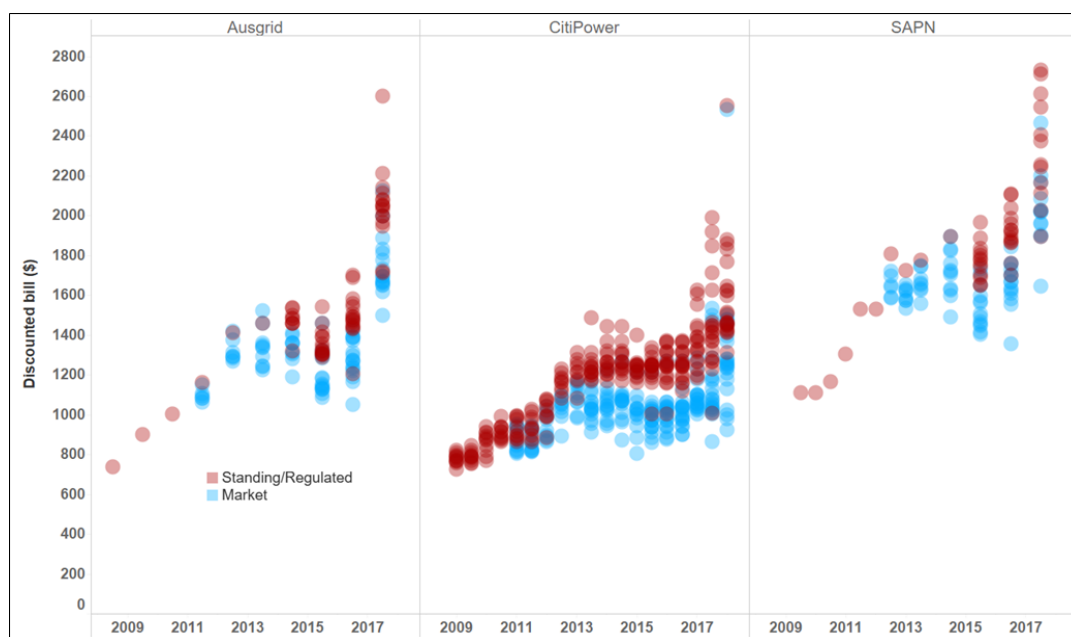
Source: Analysis based on data from *The Tariff-Tracker Project*, St Vincent de Paul Society and Alvis Consulting.

In all jurisdictions shown in Figure 4.15, the movements in standing and market offers are generally similar, but the differences between market offers and standing offers has increased over time. This has been driven by standing offers increasing at a faster rate than market offers, which also reflects the increase in discounting over the last two years highlighted in section 4.2.

Figure 4.16 shows the spread of market and standing offers for a representative consumer in New South Wales (Ausgrid), Victoria (Citipower), and South Australia (SAPN). In the retail electricity market, where the main form of competition is via price discounting, this spread or price dispersion does not appear to be driven by product differentiation, nor by retailers tailoring tariff structures to consumer needs and placing consumers on the right tariffs for their circumstances. The fact that there are far more offers than segmentation categories used by retailers highlights this.

Given the low level of customer understanding, one of the drivers of price dispersion is the use of confusing and targeted offers. This allows retailers to price discriminate based on how informed a customer is. Figure 4.16 highlights that this spread of individual offers has increased in the past year. Notably in South Australia (SAPN), there appears to be a greater cross-over of market and standing offers, than in previous years.

Figure 4.16 Spread of individual market and standing offer electricity bills



Source: Analysis of *The Tariff-Tracker Project*, St Vincent de Paul Society and Alviss Consulting.

4.6 Bill outcomes for business electricity consumers

Generally, business customers pay more for consuming the same amount of electricity than a residential consumer.¹³⁷ As illustrated in Table 4.5, a business customer can pay up to a \$1,000 more per annum for the same level of consumption as a residential consumer, despite not having access to the same customer protections. Businesses will also experience changes in price at a different rate to residential consumers.

Table 4.5 Residential and business offers in Sydney

Metric	Residential consumer	Business consumer
Average annual bill	\$4,955	\$5,944
Median annual bill	\$4,883	\$5,763
Minimum annual bill	\$4,200	\$4,782
Maximum annual bill	\$5,693	\$7,136
Number of offers	50	50

Source: Energy Made Easy (accessed 26 April 2018). Analysis is based on a consumer in the 2000 postcode area, with no controlled load and annual consumption of 16,000 kWh per year. Analysis assumes all discounts are realised and include GST.

¹³⁷ This report only analyses businesses that fall under the small customer threshold set by each jurisdiction. Accordingly, none of the proceeding analysis accounts for C&I consumers.

This section explores how the electricity bills of businesses have changed over the past year, providing an overview of:

- the magnitude of these changes
- the savings that customers can make by switching to a better retail plan.

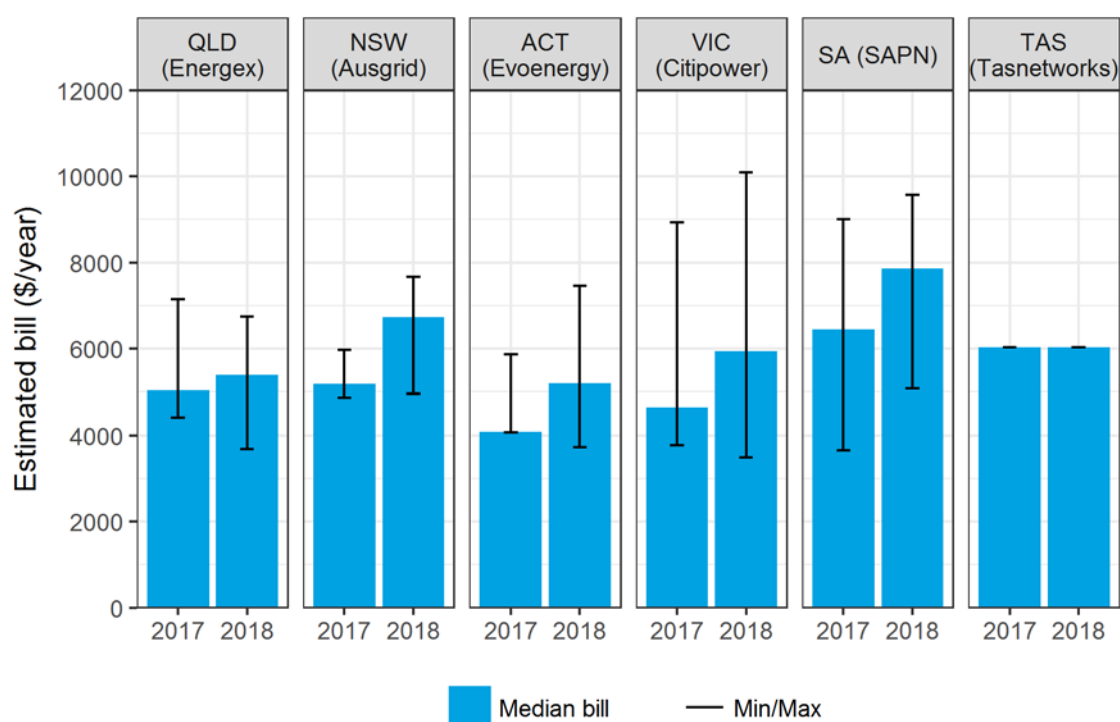
The analysis in this section is based on publically available data from Energy Made Easy and Victorian Energy Compare. The constructed bills assume a business is on a block tariff and has a consumption level of 17,500 kWh per year, across all jurisdictions. This method makes the bill amounts directly comparable between jurisdictions. This analysis does not explore gas use, as it is not used as commonly across businesses, and there is greater variation in usage for businesses that do use it.

4.6.1 Changes in standing and market offer bills

Standing offers

The median standing offer bills have increased in all jurisdictions examined.

Figure 4.17 Median standing offer electricity bills—business



Source: Energy Made Easy (accessed 5 January 2017 and 21 March 2018) and Victorian Energy Compare (accessed 20 March 2017 and 20 March 2018). Note: consumption level used is 17,500 kWh.

Figure 4.17 reveals that over 2017 to 2018:

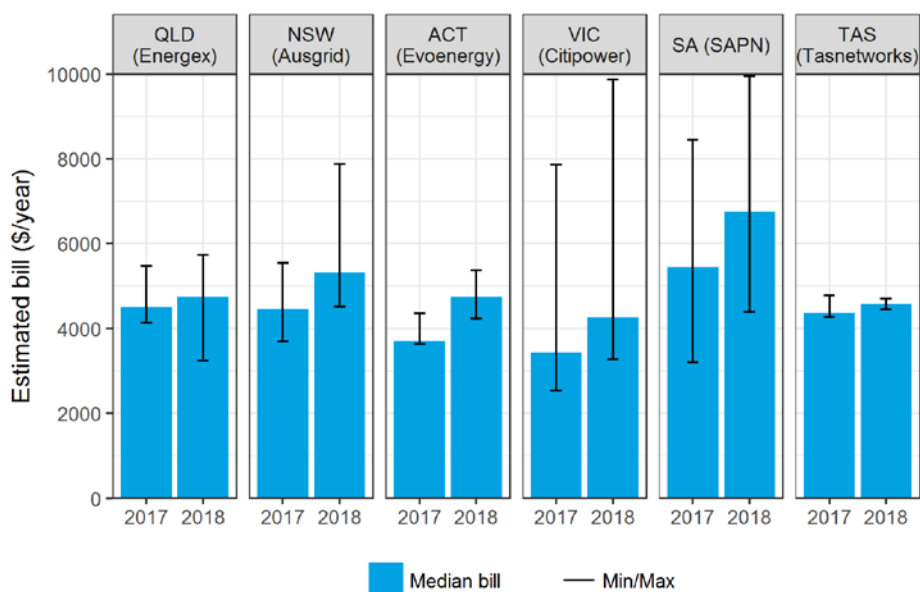
- Median bills increased between 22 and 30 per cent in Victoria (CitiPower), the Australian Capital Territory (Evoenergy), New South Wales (Ausgrid) and South Australia (SAPN) networks, and by seven per cent in South East Queensland (Energex):
 - These increases in median standing offer bills for businesses were slightly larger than the increases in median residential standing offer bills.

- As with bill increases for residential customers, bill increases were largely driven by increases in wholesale energy costs.
 - Given that the annual electricity consumption of a representative small business is higher than a residential consumer, increases in the wholesale costs will impact the bills of small businesses to a greater extent compared to residential consumers.
- The spread of standing offers increased across all jurisdictions examined except for South Australia (SAPN). The increase in the range of small business customer bills highlights:
 - Increases in the spread of offers was driven by both a large increase in the maximum standing offer and a smaller reduction in the minimum standing offer.
 - In New South Wales (Ausgrid), South East Queensland (Energex) and South Australia (SAPN), the median standing offer is now in the top half of the bill spread, suggesting the bulk of standing offers have become more expensive in these regions, with a few outlier low offers.
 - The cheapest standing offer decreased or remained around the same across all jurisdictions.
 - The range of bill outcomes for business customers is considerably larger, in dollar terms, than for residential consumers, partly due to the higher consumption levels.

Market offers

As with standing offers, the median market offer bill for businesses also increased in all jurisdictions in the NEM.

Figure 4.18 Median market offer electricity bills—business



Source: Energy Made Easy (accessed 5 January 2017 and 21 March 2018) and Victorian Energy Compare (accessed 20 March 2017 and 20 March 2018). Note: consumption level used is 17,500 kWh.

Figure 4.18 reveals:

- The bill for a business customer on a median market offer increased by between 20 to 28 per cent in the Australian Capital Territory (Evoenergy), South Australia (SAPN), Victoria (CitiPower) and New South Wales (Ausgrid).
- The spread of market offers also increased across all jurisdictions. Differences to the change in standing offer bills included:
 - the cheapest market offers increased in all jurisdictions, except South East Queensland (Energex), where it decreased by over \$890
 - the median offer remained in the lower half of the bill range in all jurisdictions, except South East Queensland (Energex).

4.6.2 Savings from market offers

There is no information available on the proportion of small business customers on standing offers in NECF regions. In Victoria, 17 per cent of businesses are on standing offers, which is more than double the proportion of residential customers.¹³⁸ If this trend is common across other jurisdictions, it indicates businesses could also achieve significant savings by switching to a better market offer. Table 4.6 below shows the share of small customers on standing offers, and the annual bill savings for a business customer from moving to the cheapest market offer from the median standing offer.

Table 4.6 Annual savings from moving from the median standing offer to cheapest market offer —business electricity

Network area	Percentage of small customers on standing offers	Savings - 2017 (\$/year)	Savings - 2018 (\$/year)
ACT (Evoenergy)	70%	\$444	\$969
NSW (Ausgrid)	19%	\$1,489	\$2,211
VIC (CitiPower)	8%	\$2,105	\$2,662
QLD (Energex)	46%	\$909	\$2,152
SA (SAPN)	12%	\$3,239	\$3,457

Source AER, ESC, Energy Made Easy, and Victorian Energy Compare. Note: this figure includes regional Queensland which has regulated prices. Standing offer proportions include both residential and business and apply to the whole state/territory.

The bill savings available from switching have increased considerably in all jurisdictions over the past year, with an additional \$218 to \$1,243 worth of savings available from switching compared to 2017, with the largest savings available in South East Queensland.

¹³⁸ ESC, *Victorian Energy Market Report 2016-17: Appendix - Performance of energy companies*, p.123

5 Residential customer behaviour and experience

Summary of key findings

- Residential consumer confidence in the energy market decreased significantly in 2018, with large retail price increases, and heightened media and political interest in the sector.
- The ECA *Energy Consumer Sentiment Survey* showed in April 2018:
 - 58 per cent of consumers were confident in their ability to make good choices (down nine per cent from April 2017)
 - 50 per cent of consumers were confident in the availability of easily understood information (down seven per cent from April 2017)
 - only 25 per cent of consumers were confident the market is working in their long-term interests (down 10 per cent from April 2017).
- Consumer trust was 39 per cent in 2018, a reduction from 50 per cent in 2017, and electricity is the expenditure item of most concern to households.
- There has been an increase in consumers changing energy retailer in the last year in all mainland jurisdictions:
 - Victoria and Queensland had the highest electricity switching rates of 27 and 25 per cent respectively
 - Victoria and New South Wales had the highest gas switching rates of 19 and 14 per cent respectively
 - 23 per cent of consumers intend to switch retailers in the next year.
- Commercial comparator websites are being used more often by consumers. These sites can be useful, but can lack transparency about the proportion of offers covered and commissions paid by retailers. The recommended deal may not be the best for a consumer's circumstances.
- There are market developments occurring that may change retailer behaviour and consumer outcomes in the near future:
 - smart meters, improved access to consumer data and smart comparison algorithms will simplify the task of choosing a retailer and plan, and challenge existing discounting practices
 - inquiries and regulatory processes underway will improve consumers' ability to engage in the market and influence retailer behaviour.
- While retailers have been slow to innovate and improve services, there is increasing evidence that where consumers are not satisfied with retailer offerings, they are acting by switching retailers or investing in solar PV and batteries.

Recommendation: Retailers and comparison service providers should establish an industry code of conduct for energy comparison sites and obtain ACCC authorisation for the code if necessary.

The code should provide consumers with improved transparency about the commercial relationship between retailers and the site, and on what retailers and offers are being compared. It should also ensure consumers receive a like-for-like comparison.

The code development and any authorisation process should be funded by industry and involve representatives from consumers and other affected stakeholder groups.

An industry code of conduct for energy comparison websites should enhance existing consumer protections under the Australian Consumer Law and the National Electricity Retail Law and Rules and reduce the regulatory burden for businesses in demonstrating compliance with consumer protection requirements.

Failing the development of an effective code, regulatory measures may be considered.

Recommendation: Any work to improve commercial comparison sites should include requirements that each site display, in a prominent location, the number of:

- 1. retailers that the website represents as a portion of all available retailers**
- 2. plans in that consumer's distribution area as a portion of all plans available.**

While comparison services provide benefits to consumers, the Commission considers commercial comparison websites generally do not adequately provide information to consumers regarding the number of retailers and plans their site represents. This means that customers who only use one comparison site may not be aware that there are better deals available to them.

This recommendation would let consumers know the market coverage of the comparison service, and provide some perspective on whether the recommended deal is likely to be the best for their circumstances.

Having examined the structure of the retail market and retailer conduct earlier in the report, this chapter examines consumer behaviour. In particular, it examines consumer:

- preferences
- sentiment and confidence
- trust in the energy market
- tenure and engagement with the Big 3 retailers
- actual and intended activity.

Data on consumer sentiment is sourced from the ECA's biannual *Energy Consumers Sentiment Survey* (the ECA Survey).¹³⁹ Survey results have been compared on a year-to-year basis due to seasonality in the biannual survey responses. The ECA survey results show that September results are generally more pessimistic than the April results.

The chapter then examines the options, behavioural and otherwise, consumers have to help them make good decisions in the market:

- There are government and commercial comparison services available to consumers, although these have positive and negative characteristics.
- Consumers have options to reduce their bill through the adoption of DER (e.g. solar PV and batteries) and/or energy efficiency initiatives.
- There are technological and regulatory developments providing tools for consumers to deal with complexity and make good energy purchasing decisions.

In the past year, while there has been a material increase in electricity prices, and political and media interest in the sector (particularly electricity), there has been relatively little change to retailer practices, as discussed in chapter 4.¹⁴⁰ These practices, including:

- discounting from varying base rates
- providing a very large number of offers
- having offers with significant complexity,

were characterised in the 2017 Review, as "*hard to understand, hard to compare*". This is in contrast to many other industries where retailers deal with supply side complexity in the way energy retailers do, yet still make their offers more easily comprehensible to their customers.

As a consequence, consumers still find it difficult to effectively navigate the market, select the optimal retailer and plan for their circumstances.

5.1 Preferences of residential consumers

As well as having a general preference for affordable and reliable products and services, consumers have a range of preferences in how they would like offers to be presented to them. There is a range of research into these consumer preferences.

¹³⁹ The AEMC has conducted a similar annual consumer survey for the past five years. Given the ECA undertakes its survey biannually, the AEMC investigated the possibility of using the ECA Survey data. While there were differences in the survey results, the observable trends in key data were similar. On this basis the Commission decided to rely on the ECA Survey and avoid the cost of conducting its own similar survey. The AEMC has been working cooperatively with the ECA to assist it in data analysis and improving the survey over time.

¹⁴⁰ AEMC analysis found there was an 11 per cent increase across the NEM in electricity prices from 2016/17 to 2017/18. The analysis involved the average bill of a representative consumer in each distribution network area being weighted by the size of the customer base in each state.

The 2017 Review referenced four emerging trends in how retailers are offering services to residential customers.¹⁴¹ According to Accenture's 2016 research, consumers want services that:

- allow fast and easy transactions, for example, mobile phone applications and online platforms ('instant everything')
- are personalised, for example, AGL's customised Energy Insights reports ('hyper relevant')
- are consistent with their values, for example, green-power options ('meaningful experiences')
- they do not necessarily own, for example, community-owned renewable energy retailers like Enova ('collective consumption').

There are examples of how various retailers have addressed each aspect, however, this list does not address a further crucial aspect of customer preference; the desire for simplicity.

Multiple studies have highlighted the difficulties consumers face in making good purchasing decisions in markets with many complex offers:

- A 2016 behavioural economics report on the energy sector indicated that "people tend to reach worse decisions when given more information and/or greater choice, and conversely, are better served 'keeping things simple'".¹⁴²
- A 2017 study by RMIT University found that "energy sector complexity and communications have contributed to the incomplete/incorrect householder understandings of their electricity tariff structure."¹⁴³
- A 2017 report by the Grattan Institute stated energy tariffs are confusing and consumers "can be misled into picking a deal that is not best for them".¹⁴⁴
- A 2018 report by the Consumer Policy Research Centre identified the need for consumer information to be comprehensible (in addition to being relevant and clear) if it is to be of use to consumers.¹⁴⁵
- A 2016 study by Oxera for the AEMC stated that in dealing with complex problems, mental shortcuts or rules of thumb enable consumers to save a lot of

¹⁴¹ See Accenture's *The New Energy Consumer: thriving in the energy ecosystem*, Accenture, Dublin, 2016.

¹⁴² Hobman, E.V., Frerikes R.R., Stenner K., Meikle S. (2016), 'Uptake and usage of cost-reflective electricity pricing: Insights from psychology and behavioural economics', *Renewable and Sustainable Energy Reviews*, 57, pp 455-467.

¹⁴³ Nicholls L., Strengers Y. & Tirado S. (2017), *Smart home control: exploring the potential for enabling technologies in vulnerable, disengaged and regular households*, Centre for Urban research, RMIT University, Melbourne. p. 72.

¹⁴⁴ Wood, T., Blowers D., and Morgan, G. (2017). *Price Shock: is the retail electricity market failing consumers?*, Grattan Institute, p. 32.

¹⁴⁵ L Solomon, B Martin-Hobbs (2018), *Five preconditions of effective consumer engagement – a conceptual framework*, Consumer Policy Research Centre, March 2018.

time and effort. However, they can be imperfect and are open to exploitation by firms.¹⁴⁶

- The Oxera study also noted that consumer preferences may be affected by how choices are presented, and consumers' reference points from past experiences or expectation. Therefore, appraisal of different options can be affected by what is presented as a 'default' or 'standard' option (status quo bias).¹⁴⁷

As with the other consumer preferences, there is evidence in the market of some retailers trialing simplified electricity product offerings. These are described in chapter 4. However, the predominant retail market offer remains a service with a fixed cost component, variable charges based on usage and the achievement of a range of conditional discounts (with each retailer discounting from different base rates).

With these consumer preferences and predominant retailer pricing practices as context, customers were surveyed to understand their perceptions of how well the market is meeting their requirements.

5.2 Residential consumer perceptions of the market

The ECA Survey asked consumers about their:

- confidence to make good choices in the energy market
- confidence in the availability of easily understood energy market information
- satisfaction with the value for money of the energy sector
- confidence that the energy market was working in the long-term interest of consumers.

Following the ECA Survey results is an analysis of the Edelman Barometer, regarding the trust consumers have in electricity and other sectors, and CHOICE's Consumer Pulse survey, regarding consumer concern about household expenditure items. These provide further insight into the residential consumer perception of the energy market.

5.2.1 Consumer confidence in abilities to make good choices

Figure 5.1 below shows that there has been a reduction in residential consumers' confidence in their ability to make good choices about the electricity and gas markets in the past year. This has occurred in all jurisdictions, with a NEM average of 58 per cent in April 2018 stating they are 'confident'.¹⁴⁸ Confidence in all markets has decreased between five per cent and 13 per cent since April 2017, except for Tasmania where the decrease was 19 per cent in the same period.¹⁴⁹ This is coupled with a seven per cent

¹⁴⁶ Oxera (2016), *Behavioural insights into Australian retail energy market*, report to the AEMC, March 2016.

¹⁴⁷ *ibid.*

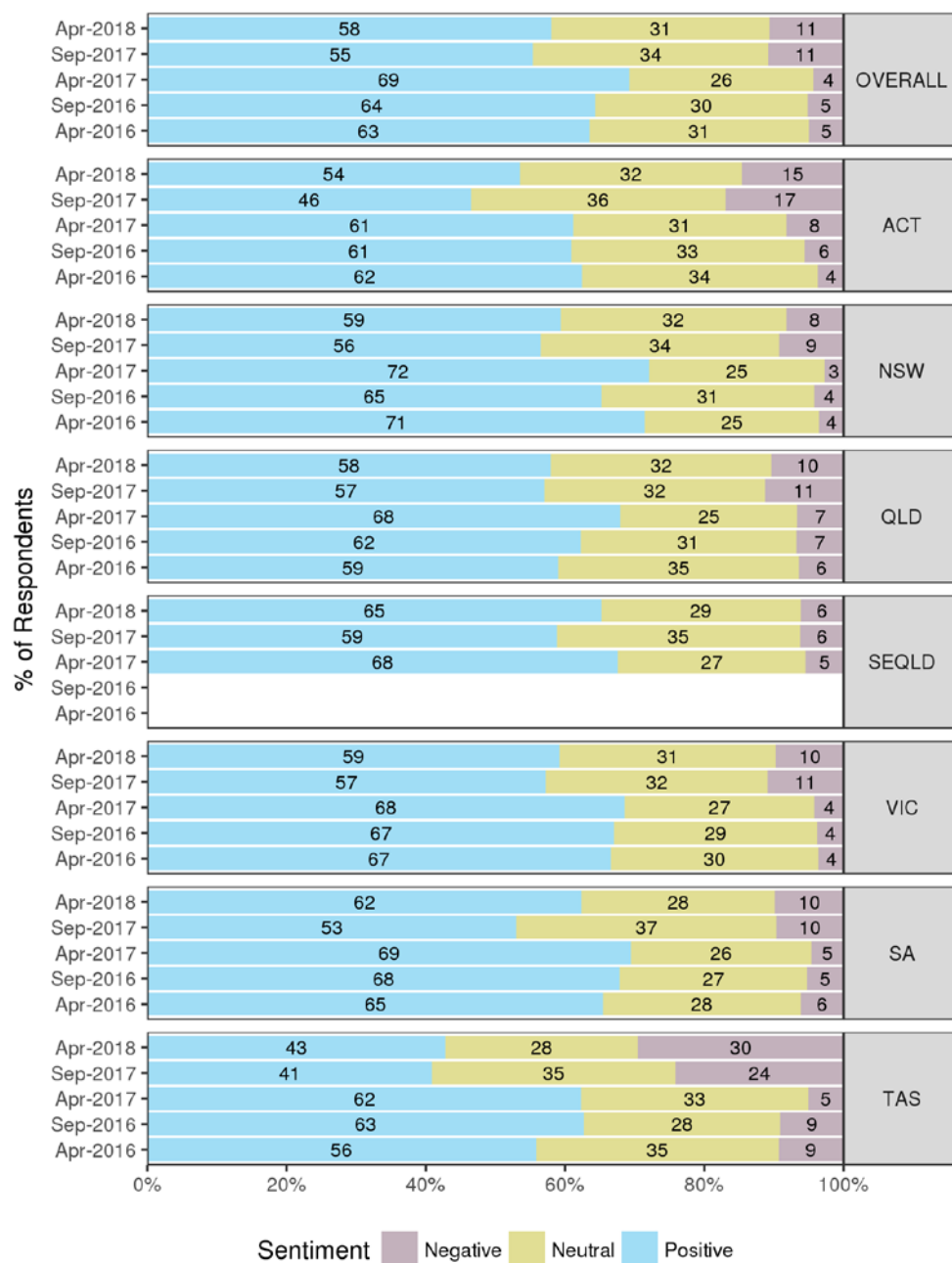
¹⁴⁸ AEMC analysis of the *Energy Consumer Sentiment Survey Wave 1-5*, June 2016-April 2018, Question C1 (A) of the questionnaire. Conducted by Essential Research for Energy Consumers Australia, Sydney, 2017. For more information see: energyconsumersaustralia.com.au/news/category/our-research/.

¹⁴⁹ *ibid.*

increase in consumers stating they are 'not confident'. This is particularly evident in Tasmania and the Australian Capital Territory where 30 per cent and 15 per cent of consumers are 'not confident' in their abilities to make choice about the energy market, respectively.

The data show that since the 1 July 2017 price increases, there has been a significant decrease in consumers who feel confident, and a significant increase in consumers who are not confident in their ability to make good choices in the energy market.

Figure 5.1 Consumer confidence in their abilities to make (good) choices about the energy market



Source: ECA, AEMC analysis. Question C1 (A) in the questionnaire. Note: The Queensland data set consists of South East Queensland and regional Queensland. South East Queensland was only recorded separately from the Queensland data set in April 2017 (wave 3). Regional Queensland data set was statistically too small for reporting. The biannual survey captures seasonal differences, so results should be compared year on year.

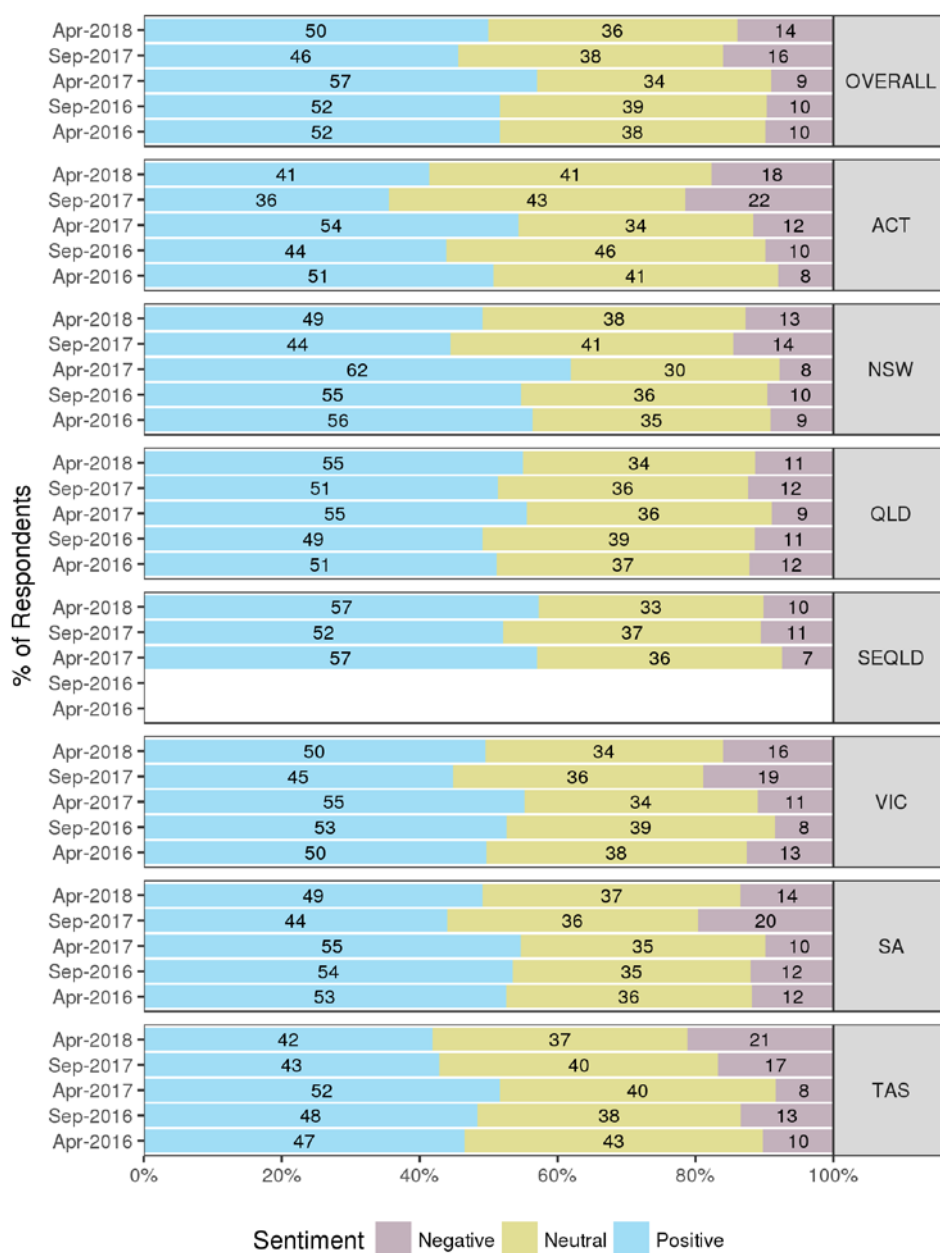
In an effectively functioning competitive market the expectation would be for consumers to have increasing confidence in their ability to make good decisions over time. Such an increase would be driven by retailers competing to meet consumer needs, and by consumers' increasing levels of familiarity with competitive markets. Recent price rises, most notably in electricity where the Big 3 increased prices by about 15 to 20 per cent, and heightened levels of political and media interest may be factors that have undermined consumer confidence in the past year.

5.2.2 Consumer access to easily understood information

Figure 5.2 indicates that in the past year consumers have become less confident that there is easily understood information about the electricity and gas markets available to them. This has occurred in all jurisdictions to varying degrees. Overall the average percentage of consumers in the NEM that are positive about their access to easily understood information dropped below 50 per cent for the first time in September 2017 since the ECA Surveys commenced.¹⁵⁰ Further, there has been an increase in the average percentage of consumers that are not confident about their ability to easily understand information across the NEM, from nine per cent in April 2017 to 14 per cent in April 2018.

¹⁵⁰ AEMC analysis of ECA's analysis, questions C1 (B) of the questionnaire.

Figure 5.2 Consumer confidence in their access to easily understood information



Source: ECA, AEMC analysis. Question C1 (B) in the questionnaire. Note: The Queensland data set consists of South East Queensland and regional Queensland. South East Queensland was only recorded separately from the Queensland data set in April 2017 (wave 3). Regional Queensland data set was statistically too small for reporting. The biannual survey captures seasonal differences, so results should be compared year on year.

The expectation for improvement in this metric is similar to that for consumer confidence in their ability to make good choices. An effectively competitive market should see improvements in consumer confidence about their access to easily understood information. The fact that this is not the case indicates that retailers are not meeting customers' expectations on these metrics or that the retail market is not showing effective competition. The same factors noted above relating to price rises and increased interest in the energy sector may also be undermining consumer confidence on this metric.

5.2.3 Comparison with other industries

A 2016 IBM study identified that a consumer's "last best experience across all sectors...become(s) their minimum expectation for subsequent experiences in any one sector".¹⁵¹ In contrast to previous years when an industry comparison on the ease of comparing offers and information sourced was used, the ECA Survey asked consumers to compare the value for money in electricity and gas against water, internet, insurance, mobile phones and banking.

The ECA Survey results are in line with those in the Newgate Research for the 2017 Review, with energy (electricity and gas) being ranked the lowest of all the sectors surveyed.¹⁵² The 2017 Review showed that consumers found energy one of the hardest sectors to switch retailers or plans, but it also had the highest switching rates. This suggested that consumers engage with energy retailers often through switching, but have difficulty switching and comparing offers. This would lead to the comparatively low levels of satisfaction, which is what the ECA Survey captures. The ECA results are further explored in the consumer satisfaction section of chapter 8.

5.2.4 Consumer confidence in the long-term

Figure 5.3 indicates that consumers have generally had low levels of confidence that energy markets are working in their long-term interests. Further, this confidence has decreased significantly across all jurisdictions of the NEM since the large price increases across most jurisdictions in July 2017.

Across the NEM, the proportion of consumers that were:

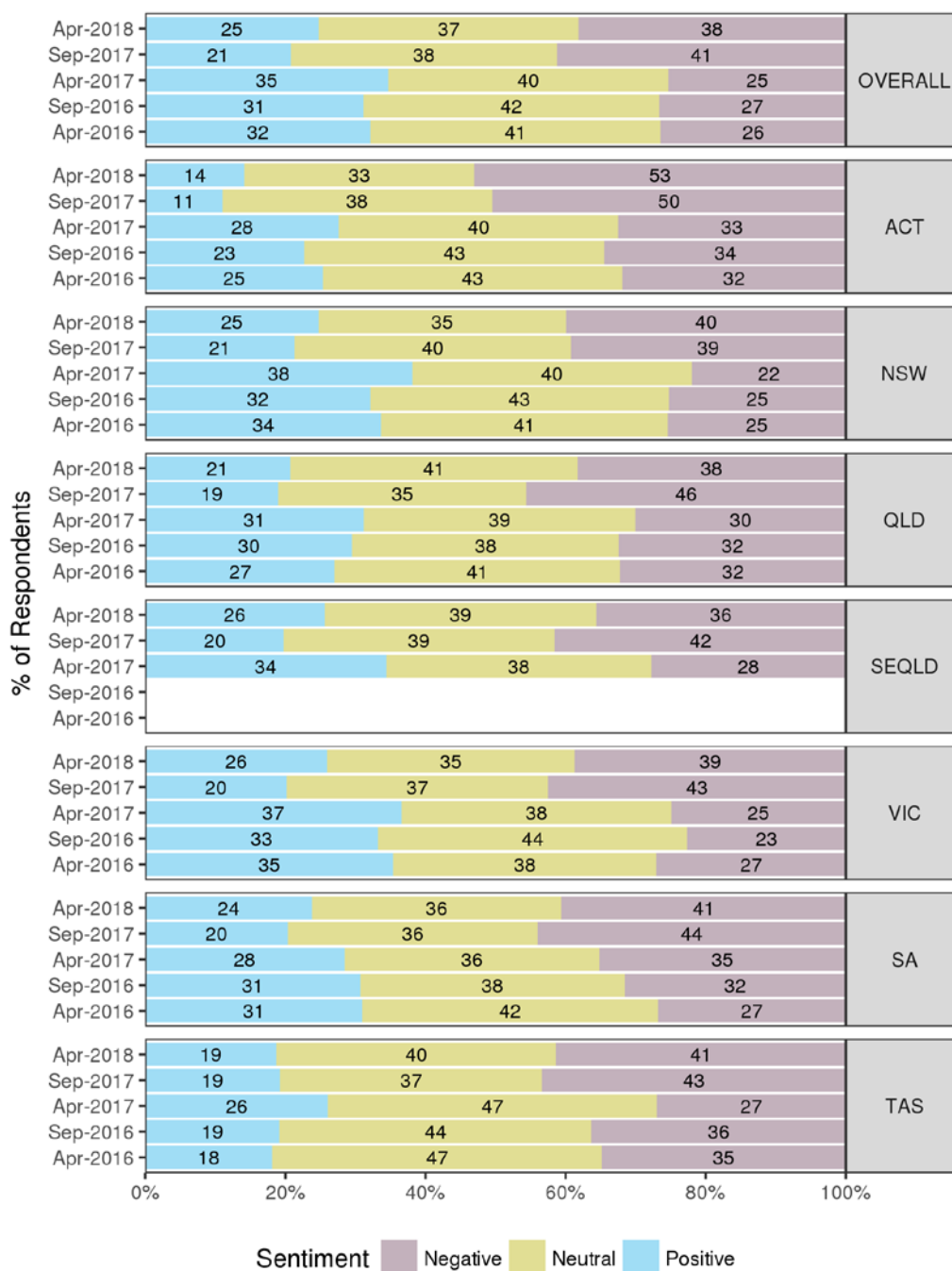
- confident that the market is working in the long-term interest of consumers, decreased from 35 per cent in April 2017 to an average of only 25 per cent in April 2018
- not confident the market is working in their long-term interests increased from 25 per cent in April 2017 to 38 per cent in April 2018.¹⁵³

¹⁵¹ IBM, *The digital customers: Engage customers as individuals*, IBM, New York, 2016.

¹⁵² AEMC, *2017 Retail Energy Competition Review*, pp. 80-82

¹⁵³ AEMC analysis of ECA's surveys, question C2 of the questionnaire.

Figure 5.3 Consumer confidence that the energy market is working in their long-term interests



Source: ECA, AEMC analysis. Question C2 in the questionnaire. Note: The Queensland data set consists of South East Queensland and regional Queensland. South East Queensland was only recorded separately from the Queensland data set in April 2017 (wave 3). Regional Queensland data set was statistically too small for reporting. The biannual survey captures seasonal differences, so results should be compared year on year.

In an effectively operating competitive market, the expectation would be that consumer confidence would increase over time as market participants communicated their vision and objectives as well as building trust. However, from the trends observed above, this is not the case for the energy market, especially in the last year. Political and media attention, as well as the July 2017 price increases, may have contributed to the recent reduction in positive responses and increase in negative responses to this metric.

5.2.5 Consumer trust

Although the ECA does not survey consumers about their level of trust in the sector, the Edelman Trust Barometer does. In 2017, Australia's trust in the energy sector was ranked 23 of 28 countries in the Edelman study.¹⁵⁴

Trust in the Australia energy sector fell from 50 per cent in 2017 to 39 per cent in 2018.¹⁵⁵ Notably this decline occurred against a general increase in trust for the sector across the 28 countries that are part of the Edelman Trust Barometer. Over a five year period, trust in the energy sector across the 28 country index increased from 57 per cent to 63 per cent.¹⁵⁶

The study also noted that 54 per cent of informed Australian consumers trusted the market, compared to 49 per cent of uninformed Australian consumers.¹⁵⁷ This suggests that higher levels of trust can be achieved through better information provision, and that the observed consumer confusion in the market is at least partially contributing to the low levels of trust in the Australian energy market.

5.2.6 Consumer concerns

CHOICE's Consumer Pulse survey measures consumer concerns about household expenditure across a range of sectors. The survey has been carried out every quarter since 2014 by YouGov Galaxy for CHOICE. It asks consumers how concerned or unconcerned they are about the current cost (expenditure) of each specific expense item for their household, which includes electricity and gas.

The results, captured in Figure 5.4 demonstrate that:

- electricity has been Australian households' main cost-of living concern for the past three years
- health and medical expenses are the only other expenditure which has been of more concern to consumers than electricity since 2014
- in January 2018, 83 per cent of respondents were concerned or very concerned about their electricity bill, compared with private health at 78 per cent, fuel at 76 per cent and gas at 66 per cent.

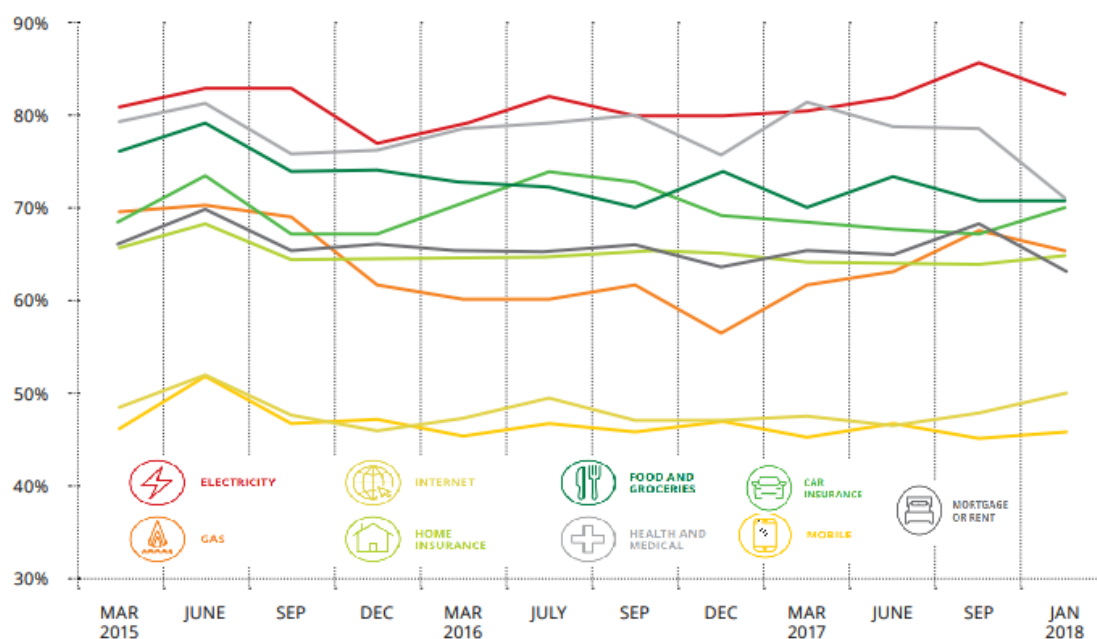
¹⁵⁴ 2017 Edelman Trust Barometer, www.slideshare.net/EdelmanInsights/2017-edelman-trust-barometer-energy-results, slide 32.

¹⁵⁵ L Solomon, Ben Marin-Hobbs, *Five preconditions of effective consumer engagement – a conceptual framework*, Consumer Policy Research Centre, March 2018, p.2.

¹⁵⁶ 2018 Edelman Trust Barometer, www.edelman.com/trust-barometer, p.46.

¹⁵⁷ *ibid*, slide 33.

Figure 5.4 Consumer concerns about household expenditure items



Source: YouGov Galaxy Survey of community views, *Energy bills and energy efficiency*, April 2018. Taken from the CHOICE *Consumer Pulse* survey waves.

The effect of the July 2017 electricity price increases can also be seen in Figure 5.4 with consumer concern for both electricity and gas increasing in the September wave of the survey. The figures for electricity in the past two quarters, have been the higher than at any time over the past three years.

5.3 Consumer tenure and engagement

Another measure of the development of competition is how well consumers interact with and are engaged in the retail energy market. Barriers, drivers and metrics of consumer engagement are explored below.

5.3.1 Barrier and drivers of market engagement

The 2017 Review noted that consumer behaviour in the energy market can be influenced by behaviour biases, which reduce consumer interest and engagement. It highlighted a number of barriers to engagement including such things as limited customer capacity to assess complex offers, the use of 'rule of thumb' when making choices, perceptions of risk, an emphasis on short-term over longer term savings, and status quo bias.¹⁵⁸

Similarly, a 2017 report by the CSIRO suggested some of the current barriers to engagement in the energy market include:

- low visibility and awareness of energy and consumption
- lack of social benchmarking of consumers behaviour in retail energy markets

¹⁵⁸ AEMC 2017, *2017 Retail Energy Market Competition Review*, July 2017, Sydney, pp. 72-73.

- low levels of literacy in energy markets, concepts and terms
- lack of perceived control over energy bills
- high perceived levels of complexity and risk of decision making
- low levels of trust, as discussed in section 5.2.5
- status quo bias for consumers to stay with their default retailer or plan.¹⁵⁹

The report also highlighted a number of drivers of consumer engagement in the retail energy market. These include economic and environmental concerns, dissatisfaction with current retailer and direct marketing from retailers.

5.3.2 Engagement of Big 3 and Tier 2 customers

The AEMC was provided information voluntarily by the Big 3 and some Tier 2 retailers on the discount level of customers and the customer tenure.¹⁶⁰ Using both the discount levels of customers and the time they have been with a retailer, insights can be drawn on the engagement of retail energy customers. The following analysis provides the high level findings from the different metrics received from retailers.¹⁶¹

Engagement of Big 3 customers

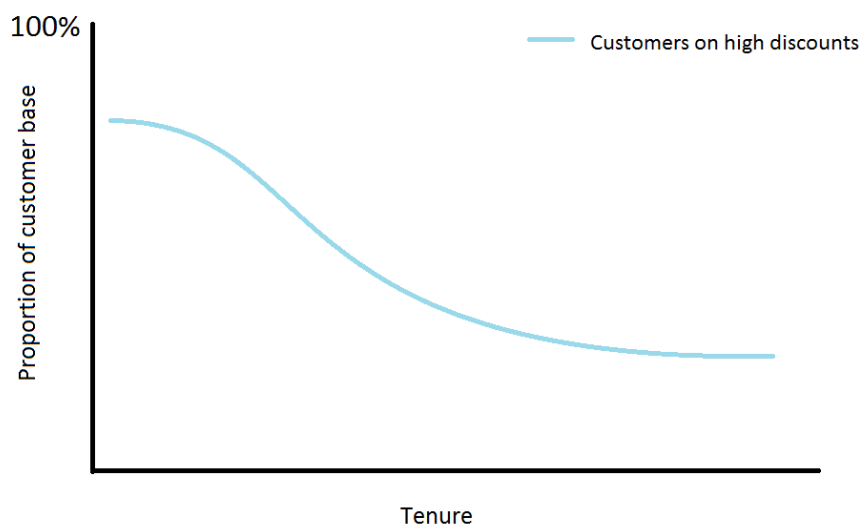
The data from retailers suggests that there is a reasonable amount of variation between tenure and discounts. The proportion of customer on high discounts though, defined as customers that are on the most popular discount level for new customers or higher, tends to follow a path similar to that in Figure 5.5 below.

¹⁵⁹ Gardner, J and Nilsson, D (2017) *Exploring the drivers and barriers of consumer engagement in the Victorian retail energy market*. CSIRO, Australia.

¹⁶⁰ For this analysis, customer tenure is defined as the length of time a customer has been with the retailer.

¹⁶¹ The data received from the Big 3 retailers was presented in an inconsistent format, which could not be combined and presented. Further, not enough Tier 2 retailers submitted data in a way that they could not be aggregated anonymously.

Figure 5.5 **Stylised changes in customers on high discount levels against time with retailer**



Note: Chart shows stylised change in customers on high discounts over time with the retailer, based on indicative data received from retailers. 'High discounts levels' defined as the most common discount band for customers that have been with the retailer for less than a year, or higher. This varies between retailers and jurisdictions.

The data from the Big 3 retailers suggests the:

- *proportion of customers with high discounts over time decreases the longer their tenure with a retailer. After being with a retailer for three to four years, the proportion of customers receiving 'higher' discounts tends to stabilise at around 20 to 40 per cent*
- *change in the proportion of customers on high discounts over time is similar for electricity and gas for each retailer. This means that while the shape and level of the curve in Figure 5.5 differs between retailers, it is similar for both electricity and gas customers of a particular retailer. The difference between retailers could be due to different pricing strategies, such as offering 'evergreen contracts', or having different proportions of customers on zero discounts¹⁶²*
- *change in the proportion of customers on high discounts over time is similar across jurisdictions for a retailer. This means that while the shape of the curve in Figure 5.5 differs between retailers, it is similar across jurisdictions. This means the variation in customers receiving 'higher' discounts follows the same trends across all jurisdictions for a particular retailer. It suggests retailers use a similar discount strategy across all its jurisdictions or consumers behave in a similar fashion.*

Engagement of Tier 2 customers

The trend in the proportion of Tier 2 customers on high discounts over time appears notably different to Big 3 customers. The data received from retailers suggests customers:

¹⁶² Evergreen contracts have benefit periods that do not expire.

- of Tier 2 retailers are more likely to receive the same discount level, regardless of how long they have been with the retailer
- that have been with a retailer for a long time, might be receiving higher discount levels than new customers, which could be due to different customer acquisition pushes at different points in time.

5.4 Consumer switching activity

One way that consumers can engage with the energy market is by switching retailers or plans. This section analyses:

- actual consumer switching activity
- the reasons why consumers switched
- consumer intentions to switch retailer and/or plan in the next 12 months.

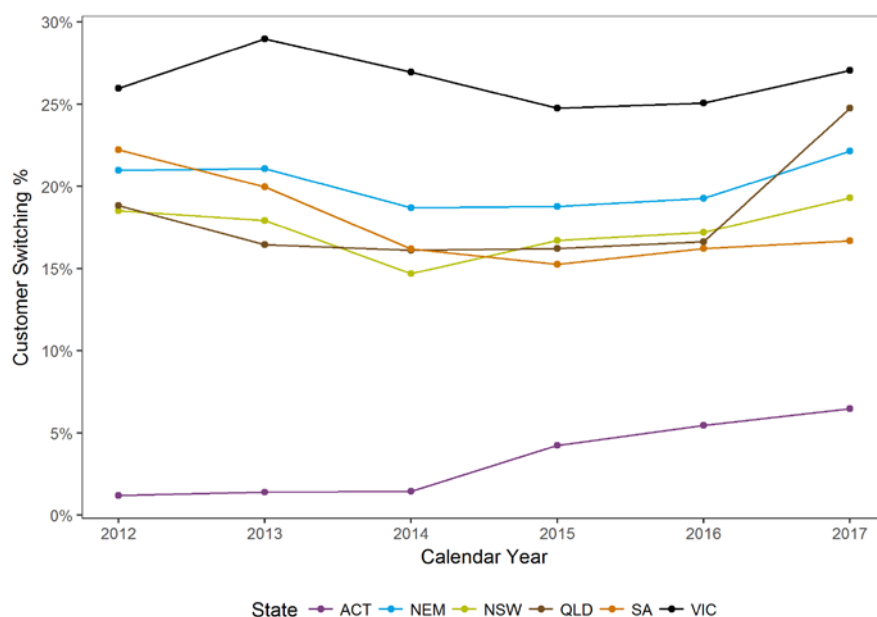
5.4.1 Actual switching activity and rationale

Consumers can switch between retailers and plans to achieve a better energy deal. This section looks at the reasons consumers give for why they have switched as well as their intentions to switch energy provider or plans in the next year.

Overall switching rates in the electricity market have increased since 2016, as seen in Figure 5. 6 below. The figure also shows that for 2017:

- Victoria has the highest rate of switching in the NEM at 27 per cent.
- There has been an increase in the number of customers switching in South East Queensland, following price deregulation and the aggressive entry of Alinta into that market, and switching rates are nearly equal to Victoria at almost 25 per cent. New South Wales also saw an increase in switching rates following price deregulation in July 2014, although not to the levels seen in Victoria and South East Queensland.
- New South Wales and South Australia have similar switching rates of about 19 and 16 per cent respectively. However, unlike other jurisdictions switching rates in South Australia decreased following price deregulation in 2015 and have remained stable since 2014.
- The Australian Capital Territory has the lowest level of switching, however switching has increased from around one per cent in 2014 to six per cent in 2017.

Figure 5.6 Overall customer electricity switching

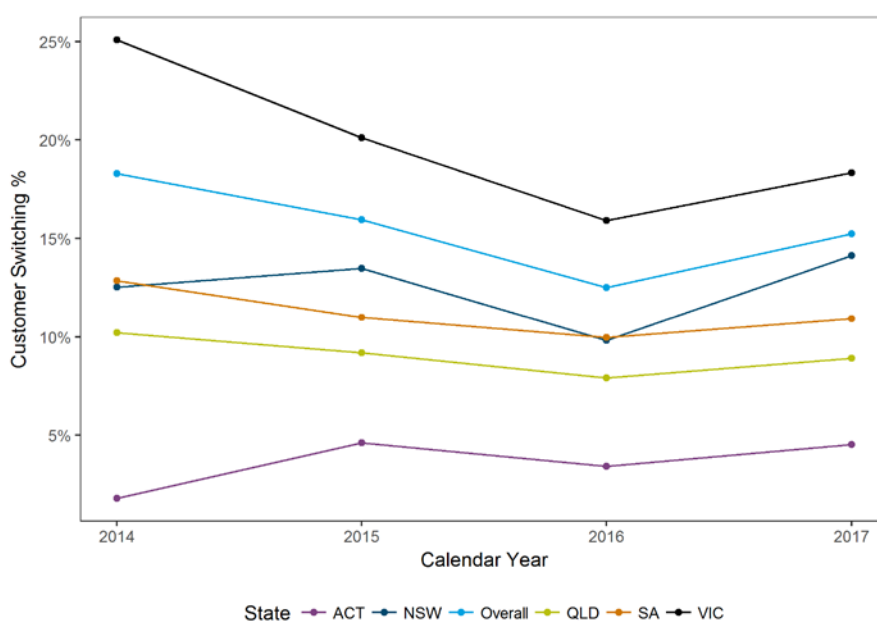


Source: AEMO, AEMC analysis Note: data does not include where a customer has changed plans with its current retailer. QLD refers to South East Queensland.

The switching rates for gas across the NEM jurisdictions was at 15 per cent for 2017, as seen in Figure 5.7 below. The switching rates of gas are slightly lower than those seen for electricity for each jurisdiction. Figure 5.7 also shows the gas switching rate is:

- 19 per cent for Victoria, the highest of all jurisdictions
- four per cent for the Australian Capital Territory, the lowest of all jurisdictions
- nine per cent for Queensland
- 14 per cent for New South Wales.

Figure 5.7 Overall customer gas switching



Source: AEMO, AEMC analysis Note: data does not include where a customer has changed plans with its current retailer. QLD refers to South East Queensland.

Rationale for switching

Across the jurisdictions of the NEM, the ECA Survey found between 73 per cent and 83 per cent of electricity and gas consumers that considered switching in the last three years did switch on that occasion.¹⁶³ The most common reasons cited for switching were:

- they were not satisfied with the value for money from their retailer
- they had searched for a better plan on a price comparison website.¹⁶⁴

The exception to this finding was South Australia, where 41 per cent of consumers stated that being approached by a competitor was the most common reason for switching.¹⁶⁵

Customers were also being offered deals by their retailers to remain as a customer and not switch. These may have been as part of retailer retention or win-back tactics. Between 16 per cent and 24 per cent of consumers reported being offered such deals.¹⁶⁶

5.4.2 Consumer intention to switch

Figure 5.8 shows the percentage of customers that are intending to switch energy retailer or plan in the next 12 months.

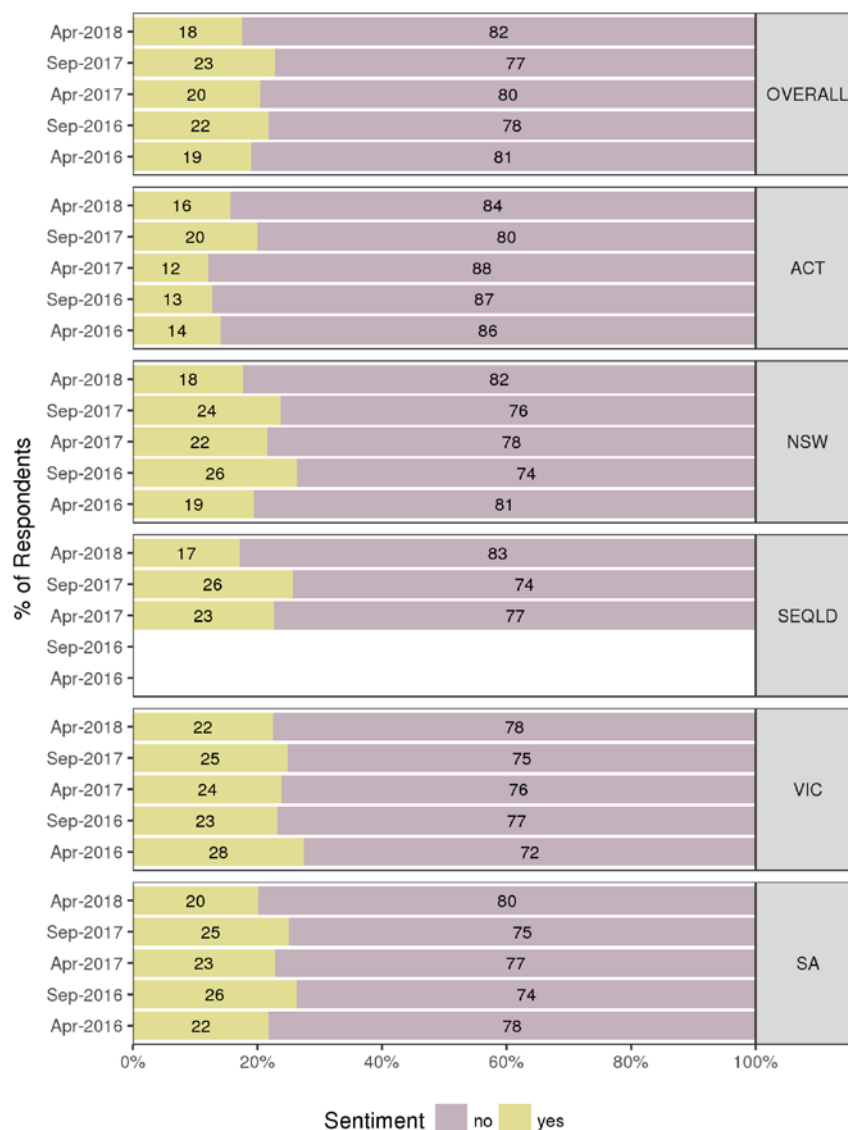
¹⁶³ AEMC analysis of the ECA Survey, question A7 in the questionnaire.

¹⁶⁴ *ibid.* Note: respondents could choose multiple options in this question and therefore responses may exceed 100 per cent.

¹⁶⁵ *ibid.*

¹⁶⁶ *ibid.*

Figure 5.8 Consumers intending to switch in the next 12 months



Source: ECA, AEMC analysis. Question A8 in the questionnaire. South East Queensland was only recorded separately from the Queensland data set in April 2017 (wave 3). Regional Queensland data set was statistically too small for reporting. The biannual survey captures seasonal differences, so results should be compared year on year.

In general, between 16 to 22 per cent of consumers in jurisdictions in the NEM, have indicated they are likely to switch retailer or plan in the next 12 months.¹⁶⁷ The intention to switch is slightly lower in the Australian Capital Territory, where 16 per cent of consumers indicated they are looking to switch in the next year.¹⁶⁸

Analysis of customer tenure showed that a cohort of customers have not switched since their market was deregulated, and that they are now unlikely to be receiving the best deal for their circumstances. This may indicate they are content with their energy deal, or that they are confused and disengaged from the market.

¹⁶⁷ AEMC analysis of ECA's surveys, question A8 in the questionnaire.

¹⁶⁸ *ibid.*

5.4.3 Comparison services

An increased number of consumers use comparison services to help them find a suitable deal given the:

- number of energy offers in the market
- complexity of those offers
- lack of consumer confidence in information sources
- lack of consumer confidence in their ability to make good choices.

There are government and commercial comparison sites:

- The AER runs the government comparison website Energy Made Easy. This site allows customers to input individual data and receive information about what offers might be best for them. The site compares all generally available offers in the market for all NEM jurisdictions other than Victoria (see below). The site does not charge fees or commissions. However, consumer awareness of the site is low and the site has historically had relatively low rates of usage, and consumers are not able to use the site to switch to the plan they determine is the best for them.
- The Victorian Department of Environment, Land, Water and Planning runs the Victorian Government Victorian Energy Compare website which services Victorian energy consumers. This site offers a similar independent service to Energy Made Easy, and similarly has low awareness and usage rates.¹⁶⁹
- There are also approximately 19 commercial energy comparison sites. These sites offer to find customers a better deal and organise the switching process for them. These sites are typically paid a commission or referral fee by retailers when a customer uses their site to switch to that retailer. This commission or fee may be a flat rate, or may be a percentage of the customer's estimated energy bill.

Many of the commercial sites are widely recognised and used by consumers. For example, well-known comparison service iSelect reported 1,250,00 unique visitors to its energy site in 2016/17, and expects an increase in this following energy price increases in the last year.

One of Australia's largest consumer advocacy groups, CHOICE, has recently announced a new pay-for-service energy brokerage service called 'Transformer'. The service aims to find the best electricity deal for a consumer and switches the consumer to that better offer. This type of 'personal agent' could be a new business model for comparison services, by differentiating itself as having 'no commissions'. Similarly, the 'deal tracker' service, recently launched by WATTevery, sends a SMS to a user if a better deal comes on the market, for a subscription fee.

¹⁶⁹ The Victorian Government has recently run an incentive program, offering \$50 for households that register to use Victorian Energy Compare. This may increase awareness of the website. For more information see: www.premier.vic.gov.au/helping-victorians-bust-their-energy-bills/.

In addition to the comparison sites, there are also another seven sites that provide connection services to customers moving house. These services are marketed as providing consumer convenience rather than (energy) savings.

Consumer benefits

Comparator websites can help consumers navigate through the large number of energy offers and the complexity of those offers, to find a better deal. They provide a service that allows customers to engage with the market in an easy to understand way, and look at a number of deals in the one place.¹⁷⁰ Comparison sites that offer switching services provide further value to consumers by assisting with the switching process.

Further, several of the commercial comparator websites add value to the customer experience through their call centres. When a customer does an online comparison, several of the commercial websites will follow up with a phone call where a representative will talk the customer through their options and the switching process.

In the 2017 Review, the Commission noted that the combination of:

- low awareness of independent government comparator websites, and
- the increased confidence consumers have in finding the right information when using such sites

suggests consumer engagement might be improved by promoting independent government comparator sites and regularly updating them so they are consumer friendly.¹⁷¹

On 18 December 2017, the AER announced that it had been provided additional funding to improve the usability of Energy Made Easy, with the first round of improvement due for release in mid-2018.¹⁷² This includes:

- a streamlining of the home and results pages to make them more user friendly and straight-forward
- implementing the changes from the newest update of the RPIG.

In discussion with the AEMC, one comparison service provider suggested that the increase in the number of comparison services in energy is due to an observable change in consumer behaviour in all sectors. Increasingly consumers are trying to find ways to save time and reduce complexity. Comparator services have sophisticated algorithms that allow different ranges of products to be compared on a like-for-like basis.

Concerns with commercial sites

There is concern that despite the benefits to consumers, some commercial sites may not provide consumers with the best outcomes. Each commercial comparator site has an affiliation with a limited number of providers (some more than others). These concerns

¹⁷⁰ ACCC, *The comparator website industry in Australia*, ACCC, Canberra, November 2014.

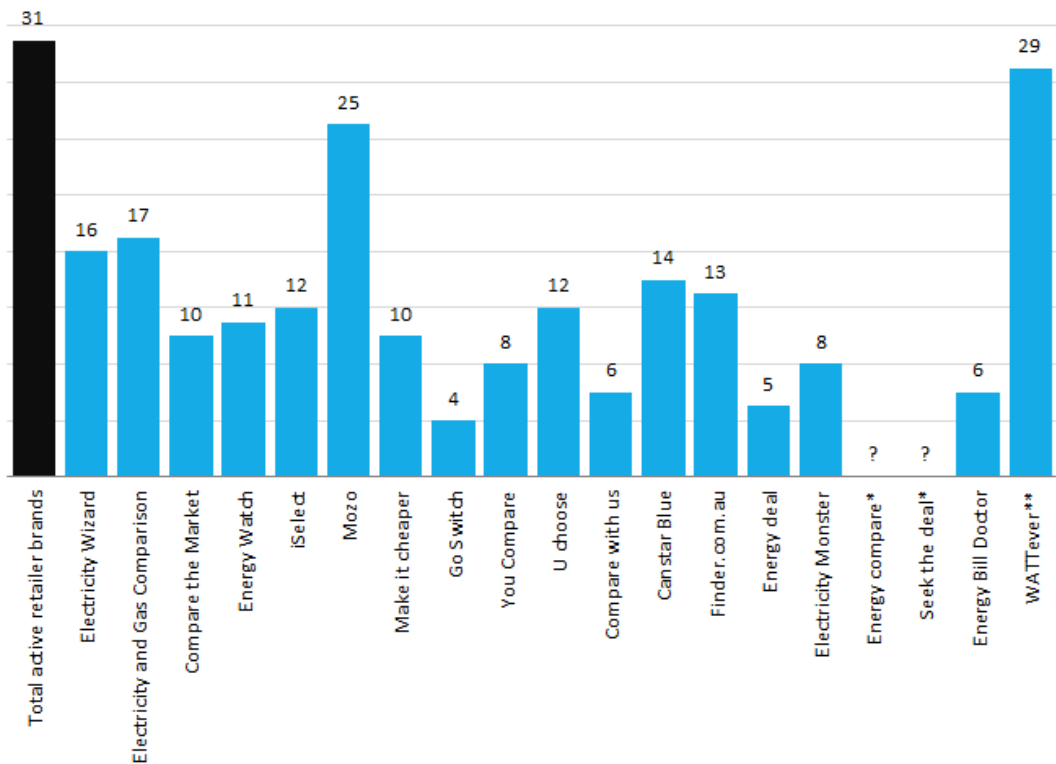
¹⁷¹ AEMC, *Retail Competition Review 2017*, July 2017, p. 84.

¹⁷² AER, *AER welcomes website funding to help customers compare plans*, Media Release, 18 December 2017.

were raised by retailers in the 2017 Review, who noted that commercial comparator websites were sales-motivated and not clear in disclosing the range of retailers they represent, nor the commission arrangements that apply to them.¹⁷³

While many commercial comparators provide a list of affiliated retailers clearly on their site, others do not. Figure 5.9 shows the commercial comparison sites the AEMC was able to find, and the number of retailers affiliated with them as of March 2018.

Figure 5.9 Representation of retailers on commercial comparison services websites



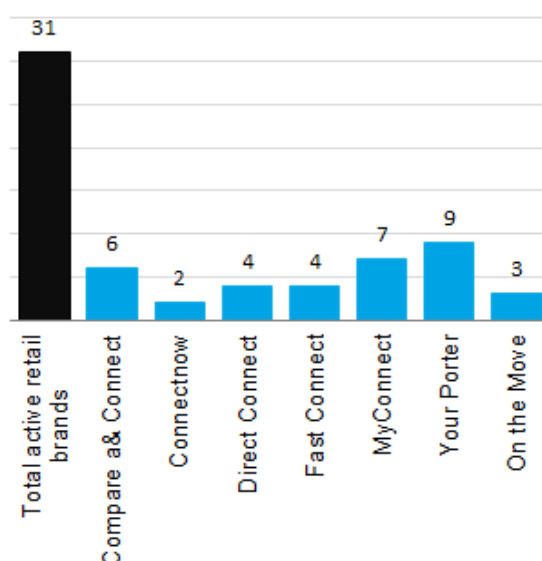
Source: AEMC analysis as at March 2018 * Could not locate affiliated providers on website ** Provides comparisons on active retailers, but only affiliated with Energy Locals for switching services.

The sites may therefore provide a customer with a better deal than they are currently getting, but may not inform the consumer of the best offer for their circumstances. Given the varying level and quality of disclosure about the number of retailers and plans that are covered by the comparison sites, consumers may not realise better deals are available to them. Further, some commercial comparison sites do not fully account for all the factors influencing a consumers bill including controlled load, discounts and feed-in tariffs, which may affect the best outcome for a consumer.

This is also an issue with utility connection services. These are services that can connect multiple utilities for a consumer when they move into a new residence. A number of these services are owned by retailers. For example, AGL owns *ConnectNow*, while *Direct Connect* is owned by Snowy Hydro (which owns Red Energy and Lumo Energy) and *On the Move* by amaysim (Click Energy). Figure 5.10 below shows the utility connection services and the number of retailers they are affiliated with as at March 2018.

¹⁷³ AEMC, *Retail Energy Competition Review 2017*, July 2017, p.84.

Figure 5.10 Representation of retailers on utility connection services websites



Source: AEMC analysis as at March 2018

The limited market coverage of the connection services is not always readily apparent to consumers. Not surprisingly, AGL reported that “a higher proportion of ConnectNow customers choose AGL as their energy provider”.¹⁷⁴ It is also not clear whether consumers distinguish between the services provided by the comparison websites and the utility connection service providers. As noted, most of the connection sites do not market themselves as services to get the customer the best deal; they just get customers connected.

Another variety of switching websites ‘negotiate’ a group discount with a particular retailer, and give access to this deal if a customer signs up. One Big Switch and FiftyUp Club are examples of this type of offering.¹⁷⁵ While these group discounts may benefit some consumers, the providers do not actually compare offers and suggest the best plan and retailer for a particular type of consumer. The optimality of these offers will differ based on the consumption pattern and levels of the consumer. In some cases consumers may be worse off after moving to these group discount offers.

A further issue of concern is the lack of transparency on the commissions paid to a site for recommending a retailer’s plan. Many retailers interviewed for this year’s report noted that these sites are a very expensive marketing channel. This adds to the costs for retailers to acquire customers, and flows into consumer pricing. For most commercial websites (unlike those offering a subscription model like WATTevery) there is an implication that the site is free to the consumer. While it is true that the consumer can use the site for free, these channel costs are indirectly borne by consumers in the form of

¹⁷⁴ AGL *Annual Report 2016-17*, p. 13

¹⁷⁵ For more information see www.onebigswitch.com.au and www.fiftyupclub.com/news/category/energy.

higher prices. Notably however, these costs may be borne disproportionately by consumers who do not regularly switch-and-save.¹⁷⁶

5.5 Other bill management methods

Beyond shopping around for a better deal, consumers have options to control or reduce their bills by:

- investing in their own electricity generation and storage capabilities
- understanding and reducing their energy usage.

While there is limited data quantifying how many consumers are pursuing such methods and the benefit they are achieving, there is evidence that such measures can materially reduce energy bills. This is particularly important in the current environment in light of the large increases in residential prices that occurred in 2017.

5.5.1 Installation of distributed energy resources

The ECA Survey in September 2017 found a significant increase in the number of consumers who already have or were considering investing in technology to reduce their energy bills.¹⁷⁷ This was particularly the case in relation to electricity.

The results of the ECA Survey are consistent with our 2017 Review, which highlighted that of the residential customers in the NEM surveyed:

- 20 per cent had solar panels
- 21 per cent were considering acquiring batteries in the next two years
- 18 per cent were considering acquiring home energy management services in the next two years.¹⁷⁸

The key findings of the ECA Survey on the installation of DER were that:

- for solar panels, 41 per cent to 62 per cent of consumers across the NEM stated that they already have, or are considering investing in rooftop solar panels¹⁷⁹
- while battery storage systems have a low penetration in the market currently, 24 per cent to 46 per cent of consumers across the NEM are considering a battery installation.¹⁸⁰

Investments in solar panels, batteries or solar hot water, can reduce the energy required from the grid. The way these new technologies are selected, the potential financial benefits and the consumer protections available are discussed further in chapter 7.

¹⁷⁶ This is an example of where cost causation (the switching customer) and cost incidence (i.e. who pays the cost) are not directly aligned.

¹⁷⁷ The latest results from this question in the April 2018 survey were not able to be processed in time for publication, so the September 2017 results are presented instead.

¹⁷⁸ AEMC, *AEMC Retail Competition Review 2017*, July 2017, p. 98

¹⁷⁹ AEMC analysis of ECA's surveys, question A1 (B & C) and A2 (B & C)

¹⁸⁰ *ibid.*

5.5.2 Reducing energy usage

Consumers can also reduce their bills by understanding and reducing their energy usage.¹⁸¹

Various government agencies have programs to help consumers manage their usage and lower their bills. Such programs include:

- New South Wales' Energy Savings Scheme
- Queensland's Energy Savvy Families
- the Victorian Energy Upgrades Scheme
- South Australia's Retailer Energy Efficiency Scheme
- Australian Capital Territory's Energy Efficiency Improvement Scheme.

All these schemes, which include education and opportunities to access more efficient appliances, aim to reduce consumers' energy bills without impacting customer lifestyles.

Other sources of advice and potential action are also available to consumers. For example the Energy and Water Ombudsman of New South Wales (EWON) has identified energy savings achievable through making small changes at the household level.

EWON has reported that:

- a second fridge or freezer can add \$300 each year to a residential energy bill
- leaving appliances on standby wastes energy with a 7 per cent (or \$170) addition to a typical energy bill
- fans are the most efficient type of powered cooling at three to five cents per hour
- air conditioners set outside of 24 to 26 degrees in summer and 18 to 21 degrees in winter can add up to 10 per cent per degree for the household energy cost of heating and cooling
- large heaters when used for six hours per day can add approximately \$360 to a quarterly bill and the use of heaters which turn off at set temperature ranges are more desirable.

5.6 Market developments that will change market conduct

The retail energy market is constantly developing and competition is more usefully thought of as a journey rather than a destination. This section analyses the current market developments that will modify the market conduct of retailers and enable consumers to have improved understanding of and trust in the market, so they can make better decisions over time.

¹⁸¹ Further significant energy savings that may be achieved through improving the quality of housing stock are not discussed in this report.

5.6.1 Empowered consumers

In addition to the consumer options to generate a proportion of their own energy and improve energy efficiency, there are additional market developments that may empower consumers by reducing confusion and delivering better billing outcomes. This will be enabled by the adoption of smart meters, improved arrangements for consumers to access their energy data, and smart applications that will identify the optimal energy deal or self-supply arrangement for each consumer.

These developments will deliver many benefits, including:

- simplifying the consumer task of comparing many complex offers, and resulting in:
 - less consumer confusion
 - improved levels of engagement
 - more consumers making energy choices specifically suited to their circumstances, with lower bills resulting for many consumers
- undermining the ability of retailers to market offers on the basis of non-readily comparable discounts, resulting in the practice diminishing over time
- the potential for customer acquisition costs to decrease as customer data and smart comparison algorithms become more readily available (from commercial or government providers), which should in turn reduce prices.

Empowerment of consumers can be furthered through education. Education plays an important role for consumers, in assisting them to understanding their bills, options to address them and help dispel misconceptions in the market. For example, consumers may hold misconception that their power could be cut during the switching process or if their retailer becomes insolvent.

Together these developments should also contribute to improved consumer confidence and trust in the sector.

5.6.2 Current market developments that will modify market conduct

This section describes key regulatory processes and developments underway that will modify the market conduct of retailers and consumers. A number of these developments are addressing issues raised in the 2017 Review (see Appendix B for a full list of past recommendations). In that review the Commission recommended that

- the AER be resourced to run an effective awareness campaign of their Energy Made Easy website and to maintain and develop the site. As previously mentioned in section 5.6.2 this has occurred with improvements to the site due in July 2018.
- the AER consider opportunities to improve the information provided by retailers to consumers related to the comparison of retail market offers and the transparency of information provided to consumers in relation to the expiring fixed benefits periods in market offers. This may occur through amendments to the AER's RPIG or through rule changes submitted to the AEMC

- retailers and distributors make it easier, and limit delays, for consumers to access their metering data
- retailers, consumer advocates and jurisdictions assist in transitioning vulnerable consumers, particularly those on hardship plans, away from higher priced standing offers or market offers with expired fixed benefit periods.

Government interventions and AEMC rule changes

In August 2017, the Australian Government secured agreement from the biggest electricity retailers to write to customers on standing offers to notify them that there may be a better market offer available.¹⁸² The Government was concerned that energy price rises were hurting consumers and that many consumers were not engaged in the energy market and not aware they could lower their bills by changing their energy retailer or plan. It has been reported that this intervention resulted in 180,000 customers moving off standing offers by March 2018.¹⁸³

The Government has also lodged a number of rules change requests intended to improve consumer information and retailer discounting practices, including:

- a requirement for retailers to notify consumers before the end of any contractual benefits¹⁸⁴
- a prohibition on retailers discounting from inflated offers¹⁸⁵
- a requirement for retailers to notify consumers before any price changes take effect.¹⁸⁶

The Retail Pricing Information Guidelines

The AER publishes the RPIG which sets out various retailer responsibilities to provide information on pricing, incentives, discounts, fees, and other information.

New guidelines were published on 23 April 2018. Some of the key amendments include:

¹⁸² See Prime Minister Press Release, *Turnbull Government secures a better deal for Australia families*, 30 August 2017, Available at: www.pm.gov.au/media/turnbull-government-secures-better-power-deal-australian-families.

¹⁸³ See Australian Financial Review article, 'Australia's energy market is on the rebound', *Australian Financial Review*, 6 March 2018. Available at: www.afr.com/opinion/columnists/australias-energy-market-is-on-the-rebound-20180306-h0x36i. Note: the AER will be reporting more accurate statistics in the near future.

¹⁸⁴ On 7 November 2017, the AEMC published a final rule and final determination for the notification of end of fixed benefit period rule change request. For more information see: www.aemc.gov.au/rule-changes/notification-of-end-of-fixed-benefit-period.

¹⁸⁵ On 15 May 2018, the AEMC published a final rule and final determination for the preventing discounts on inflated energy rates rule change request. For more information see: www.aemc.gov.au/rule-changes/preventing-discounts-on-inflated-energy-rates.

¹⁸⁶ The rule change request on notification in advance of price changes was jointly submitted by the Hon. Josh Frydenberg MP and the Hon. Don Harwin MLC. For more information see: www.aemc.gov.au/rule-changes/advance-notice-price-changes.

- Energy price fact sheets will be replaced with two new documents: the Basic Plan Information document and the Detailed Plan Information document.¹⁸⁷ Both of the documents will be generated through Energy Made Easy, based on information reported by retailers.
- A key feature of the Basic Plan Information document is the addition of a comparison pricing table with indicative bills for small, medium and large households. This is intended to help consumers understand the bill outcome that would result from different pricing and more readily compare offers
- A new requirement for the use of clearer and simpler language
- Clarifying the definition of 'generally available' plans.

5.6.3 Initiatives to improve comparison services

There are improvements underway to improve comparison websites and services.

The AER has commenced work on increasing the usability of the Energy Made Easy site. This is an important step in ensuring customers are able to access independent and clear advice on what deal is best for them. The currently targeted improvements aim to provide a more straightforward search process for consumers as well as making the displayed comparison results easier to navigate and understand. These changes should be in place by mid-2018. There are also initiatives underway in relation to commercial comparison services.

Unlike the finance sector, commercial services that provide energy comparisons are not regulated. While the ACCC has guidelines in relation to these sites, compliance seems variable. Two key requirements are for the service providers to disclose the retailers and plans that are covered by their comparison service, and any fees or incentives the comparison service receives because consumers use the service and switch. The Commission found this information difficult to find on a number of sites. The ACCC's retail electricity pricing inquiry is expected to make recommendations to address this lack of transparency.

In 2017, the Consumer Policy Research Centre (CPRC) commenced work to improve its Energy Comparator Code of Conduct (ECCC), of which 12 comparator services are signatories. The CPRC and some signatories have recognised that the code is not currently meeting its objectives. However, a lack of funding has meant the CPRC is now not able to continue its work on the ECCC.

Retailers and comparison service providers should establish an industry code of conduct for energy comparison sites and obtain ACCC authorisation for the code if necessary. The code should provide consumers with improved transparency about the commercial relationship between retailers and the site, and on what retailers and offers are being compared. It should also ensure consumers receive a like-for-like comparison. The code development and any authorisation process should be funded by industry and involve representatives from consumers and other affected stakeholder groups. Failing the development of an effective code, regulatory measures may be considered.

¹⁸⁷ AER, *AER Retail Pricing Information Guidelines: Version 5.0*, AER, Melbourne, 2018.

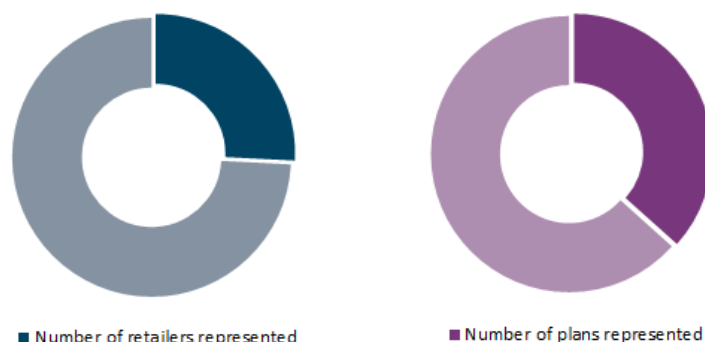
An industry code of conduct for energy comparison websites should enhance existing consumer protections under the Australian Consumer Law and the National Electricity Retail Law and Rules and reduce the regulatory burden for businesses in demonstrating compliance with consumer protection requirements.

Also, any work to improve the transparency of third-party comparison websites should include requirements that each site display, in a prominent position the number of:

- retailers that the website represents as a portion of available retailers
- plans in that consumer's distribution area as a portion of all plans available.

An example of a simple way to represent this is shown in Figure 5.11 below. This type of display may assist consumers in making decisions about whether the site is representative of the market.

Figure 5.11 Example of display requirements for comparison websites



The AEMC also suggests that consumers are provided with further information on how commissions/fees vary between the retailers comparison services represent. For example, for financial services like life insurance, comparison websites are required to provide information to consumers about how the site is remunerated when a customer signs up to an insurance product through the site, including the level of any commissions being paid. Placing a similar requirement on energy comparison services would allow consumers to make a more informed decision about whether their recommended retailer and plan was impartial.

Retailers described comparison services as a valuable yet expensive marketing channel that increases customer acquisition costs. A change in pricing behaviour to improve the simplicity and comprehensibility of offers would help to reduce consumer reliance on these services, and potentially lower customer acquisition costs, and in turn retail prices for consumers.

The planned upgrades to Energy Made Easy will likely improve customer experience and value from the site considerably. These upgrades include a refreshed design based on extensive consumer research and testing, that delivers an easier and more efficient experience for consumers to compare energy offers. In addition, enhanced functionality will allow consumers to supply their own energy consumption information more easily, to receive comparative estimates that are more tailored to their unique circumstances.

However, in the longer-term there are some potential options that may further assist consumers in using Energy Made Easy, and are worth considering. Noting that some of

these suggestions may require considerable increases in funding to implement and some potential changes to the law, some of the suggested changes include:

- *Consolidate government comparators:* Commercial comparator website increase customer awareness of their services by consolidating comparison services for different products into one brand name. Governments should consider doing the same, by bundling all existing government comparisons websites for energy and non-energy products on the same website.
- *Third party customer access:* In this approach, consumers can provide permission for a third-party service, such as Energy Made Easy, to obtain their consumption data from their existing retailer. This removes the need for customers to understand how to download their data and to understand how to use it.
- *Proactive interface:* Energy Made Easy could proactively reach out to customers. For example, the top results from Energy Made Easy for a particular customer could be included in any of the compulsory notices that retailers are required to send to customers. In this format, consumers can obtain a comparison of offers without having to provide any information.¹⁸⁸

5.6.4 Consumer data access

There are a number of initiatives in train to improve access to consumer energy data:

- There is an economy-wide process to implement a Consumer Data Right (CDR) that will give consumers more visibility and control over data that relates to them. Importantly consumers will be able to easily authorise third parties to access their data for the purposes of providing energy analysis and offers. The first sectors to implement the CDR are banking, telecommunications and energy. The energy arrangements are being developed by the Commonwealth Government in consultation with industry.
- There is also a Data Strategy for the NEM being developed by the AER and ESB in consultation with other market institutions and sector participants. The strategy should improve data flows and has the potential to improve investment and participation decisions, with resulting efficiency and consumer benefits.

Ideally, the progress in improving consumers access to energy data will coincide with the improvement to public and commercial comparison websites, discussed above. If implemented well, consumers should be able to easily use their consumption data to help them choose the most optimal plan for themselves.

5.6.5 ACCC report

The ACCC's final report on retail electricity pricing is expected to contain a number of recommendations to improve market transparency and market conduct.

¹⁸⁸ A variant of this approach was carried out in the UK. See Ofgem, Results from the Cheaper Market Offers Letter Trial, 24 Nov 2017, www.ofgem.gov.uk/publications-and-updates/results-cheaper-market-offers-letter-trial, accessed on 14 May 2018.

6 Business consumer behaviour and experience

Summary of key findings

- Businesses are significantly different in terms of size, turnover and energy intensity. Accordingly, the way they behave and react to market conditions varies materially.
- Businesses faced higher price rises and have higher consumption on average, than residential consumers. Their energy costs have risen materially in the past year, with 36 per cent experiencing bill shock. Of those businesses:
 - approximately half absorbed the price rise
 - approximately half made efforts to reduce their consumption
 - 17 per cent looked to change retailers.
- The number of businesses receiving discounts and rewards from their gas retailer increased in the past year. They were more likely to receive this from the Big 3 than Tier 2 retailers, a reversal from previous years.
- Retailers have been more active in approaching businesses in 2018 with a 30 per cent increase from 2017. In 2018, 90 per cent of businesses were approached by a call from a retailer, up from 57 per cent in 2017.
- There is an identifiable polarisation among business consumers when:
 - comparing offers, with 34 per cent (a 19 per cent increase) of consumers that found it 'very easy' to compare deals, while 22 per cent (a 14 per cent increase) found it 'fairly difficult' to compare offers
 - switching, with a 12 per cent increase in businesses that changed retailer, and a 37 per cent increase in businesses who did not investigate switching options in the past 12 months.
- Over half of the surveyed businesses indicated they would be interested in changing, or are currently looking to change energy providers. Businesses that reported switching in the past five years were generally satisfied with the outcome and process.
- Anecdotal evidence suggests timeframes for businesses to accept bespoke electricity quotes has reduced considerably due to increased volatility in the wholesale market. This makes the task of choosing the best deal harder.

Recommendation: The AER report on customer numbers, switching rates and contract type by residential and small business segments separately.

This year's report has focussed on the market experience of small business customers, because they interact with the retail energy market in different ways to residential consumers, and have been impacted to a greater extent by recent price rises.

However, much of the data on switching, customer numbers and contract types for small businesses is not presented separately from residential customers by the AER (as it is by the ESC). This report has therefore relied on consumer research to draw conclusions on the experience and activity of small businesses in the market. Actual data on the mentioned metrics could be added to future analysis.

This recommendation will improve understanding of the different segments.

In past retail competition reviews conducted by the AEMC and others, the business segment of energy consumers has been treated as a homogenous group. There is however, considerable variation in businesses within this category, as they range from newsagents to farmers to accountants to small manufacturers. Business consumers, like residential consumers, also experienced electricity retail price increases due to increases in the wholesale costs of generation. The main difference being that these businesses generally experienced the increase before residential customers, and some increases appeared substantially higher than those experienced by residential customers.

This chapter provides an in-depth overview of the business consumer and their behaviour, and analyses:

- business characteristics and retailer interaction
- switching behaviour
- other bill management responses
- cross-sectional analysis of different business types.

The analysis in this chapter is largely based on consumer research conducted for the Commission by Colmar Brunton in February and March 2018.¹⁸⁹ The research conducted by Colmar Brunton used a mixed methodology of online (440 responses) and phone (400 responses) surveys. Sections 6.1 to 6.3 of this chapter relies on time series data, and only uses the phone survey results, which is more comparable with the methodology used in previous years.¹⁹⁰ Section 6.4 uses the larger dataset of both the online and phone surveys to provide a disaggregated analysis based on the different characteristics of businesses.

As per the Terms of Reference for this review (see Appendix A), this chapter focuses on businesses that are defined as *small customers* in the NERR. This definition is based on a

¹⁸⁹ The report and accompanying data is available on the Commission's website.

¹⁹⁰ Also, the sampling methodology for both phone and online surveys in this year's review was slightly different from previous years, and shows an improvement in the accuracy in how the survey reflects the small business segment.

consumption threshold that varies between each region, ranging from 40MWh to 160MWh per annum of electricity and 400GJ to 1000GJ per annum in gas.¹⁹¹

6.1 Understanding characteristics and engagement with the retail sector

Businesses interact with the retail energy market in a different way to residential customers. There are several differentiating factors that illustrate this, including:

- annual energy costs
- choice of energy retailer
- typical energy contracts
- reaction to price increases.

6.1.1 Annual energy costs

The respondents from the business survey suggested that they had an average bill in 2018 for:

- electricity of \$3,731 per year
- gas, which fewer businesses use, of around \$1,078 per year.¹⁹²

Energy bills vary considerably by business type. For instance it would be expected that a butcher would have a much larger bill than a newsagency, due to the high levels of refrigeration.

As discussed in chapter 4, these businesses, like residential consumers, have also experienced a significant increase in the average cost of electricity, and to a lesser extent gas, over the past year.

The analysis in section 4.6 shows price increases occurred at a greater rate for business customers compared to residential customers. This is compounded by the higher levels of consumption of businesses.

The level of consumption varies considerably by business type, with some businesses having very high levels of consumption, and limited resources and know-how to negotiate better deals. For instance, the average dairy farm had an annual electricity bill of around \$25,950 in 2015/16, which increased by six per cent to \$27,400 in 2016/17.¹⁹³

¹⁹¹ Small customer definitions are: South Australia - Electricity 160MWh, Gas 1TJ; Australian Capital Territory - Electricity 100MWh, Gas 1TJ; New South Wales - Electricity 100MWh, Gas - 1TJ; Victoria - Electricity 40MWh, Gas 1TJ; Tasmania - Electricity 150MWh, Gas 10TJ; Queensland - Electricity 100MWh, Gas 1TJ.

¹⁹² *2018 Retail Competition Review, Small Business Survey Report*, Colmar Brunton, p. 72, Canberra, 2018.

¹⁹³ Australian Bureau of Agricultural and Resource Economics and Sciences, *National Farm Survey*, summary data tables, viewed 9 May 2018, www.agriculture.gov.au/abares/research-topics/surveys/farm-survey-data#summary-data-table.

6.1.2 Choice of energy retailers

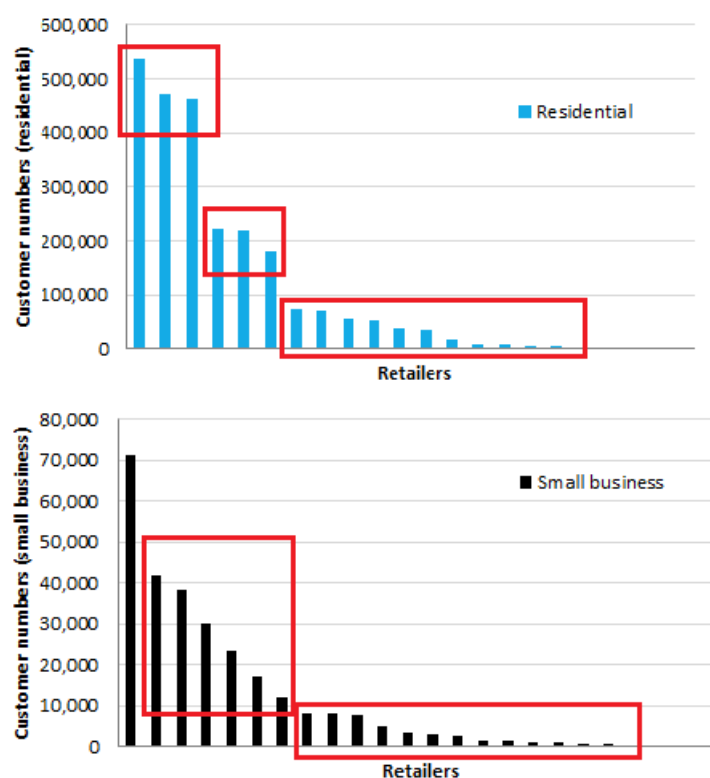
Electricity

The three major energy retailers that provide electricity to business consumers are consistent with previous surveys - Origin Energy (28 per cent), AGL (26 per cent) and EnergyAustralia (12 per cent).¹⁹⁴ Simply Energy (five per cent of the market share) and Momentum Energy (four per cent) have, again, rounded out the top five NEM electricity retailers to business consumers.¹⁹⁵

This is broadly consistent with the results from the ESC's *Victorian Energy Market Report 2016-17*, that separately reports retailer customer numbers for both residential and small business customers.¹⁹⁶

One notable difference between the residential market, at least in Victoria, is that the market share of the Tier 2 retailers is more comparable to that of the Big 3 retailers, as illustrated in Figure 6.1. Market share of residential retailers appear to be stratified into three size categories, with a significant distinction between the Big 3 and the rest of the retailers. Retailers' market share of businesses suggests there is more competition between retailers, with the exception of one retailer that holds a large market share.

Figure 6.1 Customer numbers by retailer in Victoria



Source: Essential Service Commission, *Victorian Energy Market Report 2016-17*; AEMC Analysis.

¹⁹⁴ 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p.60, Canberra, 2018.

¹⁹⁵ *ibid.*

¹⁹⁶ The AER does not report retail data for small business and residential consumers separately, whereas the ESC in Victoria does, so the following analysis focuses on Victoria in more detail.

The results from the 2018 business survey also suggest customers of the Big 3 are more likely to have received rewards or discounts (63 per cent) than customers of the Tier 2 retailers (54 per cent). This is a change from the 2017 survey when 75 per cent of the customers of the Tier 2 retailers reported receiving rewards or discounts compared to 62 per cent of the customers of the Big 3.

Gas

For gas, the Big 3 have a larger market share with the 2018 survey suggesting 72 per cent of the market is made up by the Big 3. In Victoria, 76 per cent of the business gas market was supplied by the Big 3. This may also be attributed to there being less choice available to business gas customers, with two fewer retailers servicing the business market than residential market.

According to the survey, there has been a significant increase of 12 per cent in the number of businesses reporting they received rewards and/or discounts from their gas retailers in the last year. This has been driven by a 15 per cent increase in the Big 3 having such offerings, and a 22 per cent decline from the Tier 2 retailers.

6.1.3 Typical energy contracts

Business customers have different energy contracts available to them, compared to residential customers. In addition to the types of standard offers discussed in chapter 4, retailers offer businesses additional options, including:

- fixed monthly payments
- time-of-use tariffs that have different rates for weekends
- bespoke contracts for medium and large energy users.

Results from the consumer survey suggest the majority of businesses are on a standard block or flat-rate tariffs (53 per cent).¹⁹⁷ This is followed by close to one-third of businesses that are on time-of-use tariffs and controlled loads (31 per cent).¹⁹⁸ A smaller portion of consumers stated that they were provided a fixed price over a given period for their electricity usage (eight per cent), with only one per cent of consumers stating they had another billing arrangement.¹⁹⁹

Active choice of energy contract

Approximately three quarters of businesses reported in 2018 that they actively chose to be on their electricity and/or gas contract or plan.²⁰⁰ These levels are slightly lower than those reported in 2017, but are still a strong indication that these businesses are engaging with energy retailers to choose their desired contract or plan.

¹⁹⁷ 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 61, Canberra, 2018.

¹⁹⁸ *ibid.*

¹⁹⁹ *ibid.*

²⁰⁰ *ibid.*, p. 64.

In the past year there has been a marked increase of 31 per cent of businesses who do not know when their contract expires.²⁰¹ This is coupled with an increase of eight per cent of business who believe that their electricity contract has no expiry date.

Consumers who are not actively aware of, and monitoring, their energy contract may not realise the benefit period has ended until the time when they experience a higher bill than expected. In the 2017 Review, the Commission identified this as a problem.²⁰²

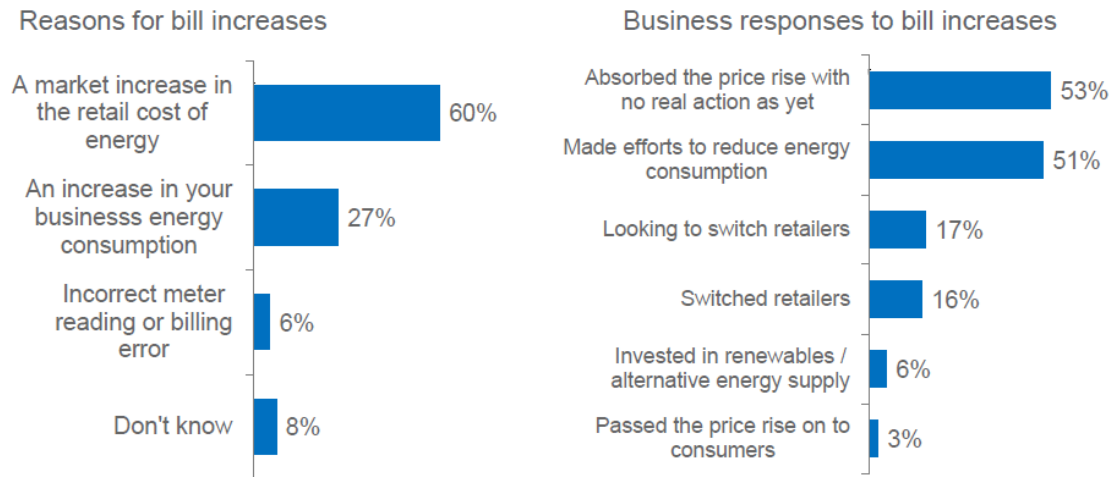
In November 2017, the AEMC completed a rule change to address this issue.²⁰³ The rule provides for customers to be notified 20 to 40 business days before the end of the fixed benefit period. This gives consumers a chance to switch contracts before losing their benefits.

6.1.4 Bill shock & business responses

According to the latest consumer research results, the number of business consumers that experienced bill shock remains relatively high at 36 per cent.²⁰⁴ As illustrated in Figure 6.2, those experiencing surprise or shock from bill increases, attributed the increase to the following:

- 60 per cent to a marked increase in the cost of retail energy
- 27 per cent to an increase in consumption
- six per cent to an incorrect meter reading or billing error
- eight per cent did not know why their bill increased.²⁰⁵

Figure 6.2 Reasons for and responses to bill increases



Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton p. 69. Note: The analysis of business responses to bill increases allowed the respondents to tick multiple boxes, which means that the responses could sum to greater than 100 per cent.

²⁰¹ *ibid*, p. 65.

²⁰² AEMC, 2017 AEMC Retail Energy Competition Review, 25 July 2017, Sydney.

²⁰³ For more information see: www.aemc.gov.au/rule-changes/notification-of-end-of-fixed-benefit-period.

²⁰⁴ 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 68, Canberra, 2018.

²⁰⁵ *ibid*, p. 69.

The way in which businesses responded to bill increases suggest that there may be a lack of action to reduce bills, with 53 per cent of businesses stating they 'absorbed the price rise with no real action as yet'.²⁰⁶ Although 51 per cent stated that they 'made efforts to reduce energy consumption'.²⁰⁷ Notably, only 17 per cent of businesses surveyed opted to explore switching retailers, and six per cent of businesses invested in alternative energy supply.

As discussed in chapter 4, businesses can save considerable amounts by switching to a more optimal retail tariff. The following sections explore switching behaviour, impediments to switching and other measures business consumers can pursue to reduce their bills.

6.2 Switching behaviour

Like households, switching energy providers or plans can reduce the retail energy bills for businesses. Switching is also one of the main contact points that businesses have with their retailers. This section explores:

- why businesses switched retailers
- investigation of options
- switching rates
- outcomes from switching
- reasons businesses don't switch.

This analysis gives an indication of the level of engagement of business consumers as well as their confidence in the energy market. As discussed in chapter 1, there are several measures and indicators of effective competition, including switching behaviour. However, each of these measures and indicators need to be interpreted together to provide a holistic interpretation of the state of competition.

6.2.1 Motivations for switching

The main reason businesses gave for switching has not changed substantially over the past few years. Of those switching, 82 per cent of business consumers wanted or were offered a better price for their energy.²⁰⁸ Much smaller proportions of businesses are switching because they:

- were unhappy with the customer service (seven per cent)
- wanted green power or solar (three per cent)
- had come to the end of their contract and wanted to change or preferred different billing arrangements (both two per cent).

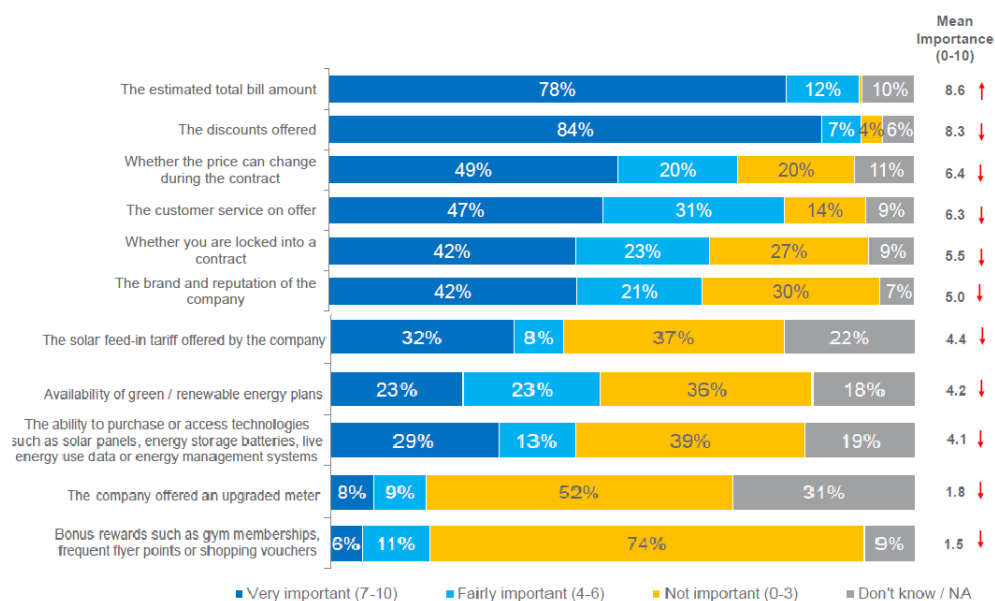
These results were confirmed when businesses were prompted to rank the importance of a range of factors that influence motivations for switching, as illustrated in Figure 6.3.

²⁰⁶ *ibid.*

²⁰⁷ *ibid.*

²⁰⁸ *ibid.*, p.50.

Figure 6.3 Factors considered in past switching



Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, pp. 51-53.

Notably, businesses have little consideration for additional 'value-added services', with the estimated bill amount and qualities of the contract featuring as most important to businesses.

Retailers have also been more active in approaching businesses in the past year, with 79 per cent of businesses surveyed noting they were approached by a retailer, up from 49 per cent in 2017. Additionally, there was an observable change in the channel through which businesses were approached, with 90 per cent of businesses receiving a call from a retailer, up from 57 per cent in 2017.²⁰⁹ This change was accompanied by a reported reduction in retailers coming to business premises, sending emails, or sending letters/brochures in the mail.

Businesses based in Victoria, New South Wales and South East Queensland were more likely to be approached by a retailer, than businesses in other regions. Additionally, the majority of businesses surveyed noted they thought that retailers were overly aggressive in their marketing practices.²¹⁰ This could be linked to the shift in marketing channels.

6.2.2 Investigating options to switch

As with last year, businesses are generally aware they can choose their energy company, plan, and contract details. However, across jurisdictions for:

- electricity, this decreased by three per cent
- gas, this increased by three per cent.²¹¹

²⁰⁹ ibid, p.38.

²¹⁰ ibid, p.39.

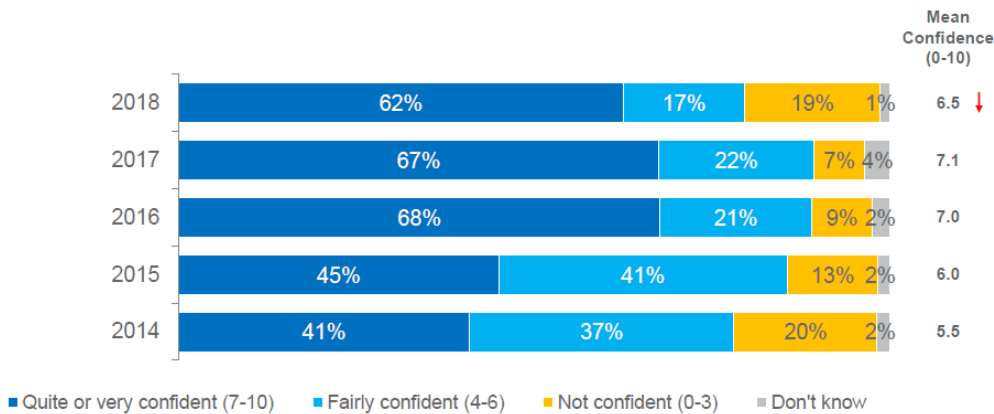
²¹¹ ibid, pp. 27-28.

As with previous years, regions with price regulation have lower levels of perceived choice, than regions without.

While most businesses are aware they can choose their retailer and plans, they are becoming less confident that they can find the right information to help them choose the right plan. Figure 6.4 below illustrates the rise in the number of businesses that are 'not confident' up to similar levels when the consumer survey began in 2014.

This sentiment was also present in residential consumer confidence in switching. It perhaps suggests an industry-wide problem with efficient information transfer and the provision of sufficiently easy to understand information regarding tariffs to consumers.

Figure 6.4 Confidence in finding the right information to help choose plan



Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 31.

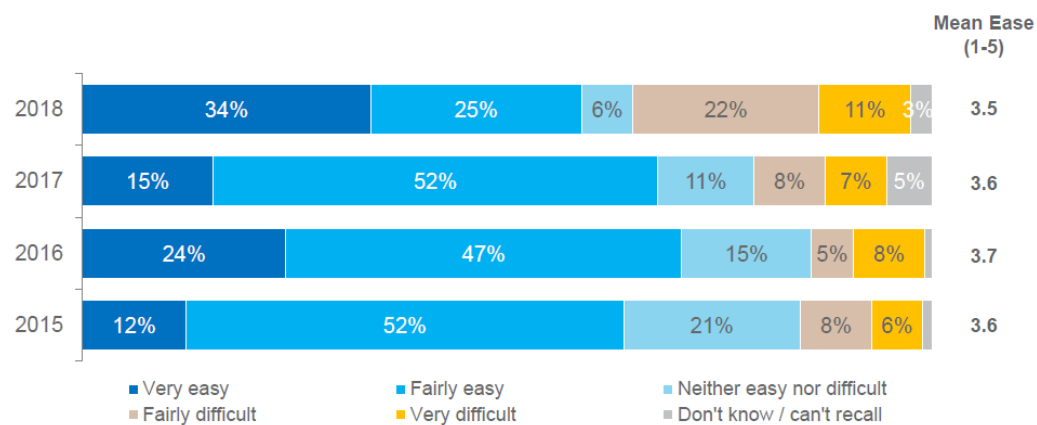
Google and internet searches remained the most common way businesses source information when investigating energy plans. However, there was a large increase in the number of businesses that phoned a retailer, visited a retailer's website or received a call from a salesperson. Businesses also appeared to have less unprompted awareness of comparison websites than previous years. Total awareness (prompted and unprompted) increased for many government comparison websites like Energy Made Easy (up 14 per cent to 21 per cent) and yourenergy.nsw.gov.au (up 6 per cent to 9 per cent).²¹² The difference between prompted and unprompted awareness could suggest that businesses may not be aware they could use these websites for their businesses.

When comparing offers made by retailers, there is a notable polarising in the experiences of businesses. As illustrated in Figure 6.5, compared to the 2017 survey, there was a 19 per cent increase in businesses that found it very easy to compare deals. This was mirrored by a 14 per cent increase in businesses that found it fairly difficult to compare offers.²¹³ Notably though, there was no statistically significant differences between different business types, or sizes in the responses to the question.

²¹² Yourenergy.nsw.gov.au is a website hosted by the New South Wales Government that explains how competition and deregulation work, and directs customers to the Energy Made Easy website.

²¹³ 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p.58, Canberra, 2018.

Figure 6.5 Ease of comparing options



Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 58.

6.2.3 Rate of switching

Over half of all businesses surveyed indicated they would be interested in switching, or are currently looking to switch energy providers. This is slightly down (five per cent) from last year, but is offset by an increase in businesses that have recently switched, which increased by 12 per cent.²¹⁴

This increase in recent switching has also been reflected in a large jump in switching in the last 12 months and five years, as illustrated in Table 6.1 and Figure 6.6 below.

Table 6.1 Switching energy company or plan in the past 12 months

Region	Electricity company	Electricity plan	Gas company	Gas plan	Energy company or plan
Overall average	19% (↑8%)	17% (↑6%)	30% (↑20%)	24% (↑11%)	32% (↑12%)
New South Wales	11% (↓4%)	19% (↑7%)	N/A	N/A	34% (↑7%)
Victoria	28% (↑21%)	16% (↑10%)	N/A	N/A	34% (↑19%)
South Australia	14% (↑4%)	5% (↓11%)	N/A	N/A	19% (↓5%)
South East Queensland	24% (↑12%)	24% (↑9%)	N/A	N/A	45% (↑22%)
Australian Capital Territory	9% (↑9%)	5% (↓3%)	N/A	N/A	12% (↑4%)

Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton p.49. Note: Statistical base for all jurisdictions were too small for gas company and plan switching to be reported.

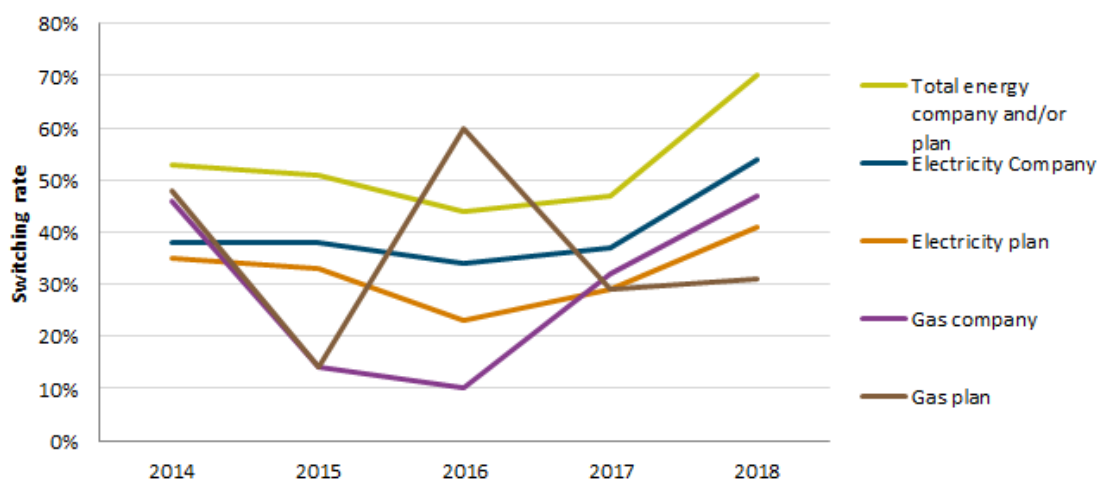
²¹⁴ *ibid*, p. 41.

As discussed in chapter 4, businesses have faced a marked increase in their retail energy bills. This has likely led to a significant increase in switching rates, with 32 per cent of businesses across jurisdictions switching energy retailer and/or plan over the past 12 months, up 12 per cent from last year.²¹⁵

Whilst switching both company and plan increased significantly over the past year, overall, businesses tended to switch retailer slightly more than they switched plans. Further, there was a larger increase in overall gas switching rates (i.e. company and plan) than for electricity. As Victoria had the largest energy price increase across jurisdictions last year, it also had the largest increase in switching rates. New South Wales had a fall in switching retailers, but an increase in switching plans compared to last year. This could be linked to an increased use of win-back offers in the state.

Figure 6.6 below shows that these increases in switching rates in the past 12 months flowed through to the long-term switching rates. When businesses were asked in 2018 whether they had switched in the last five years, 70 per cent of respondents had suggested they had switched electricity or gas retailer or plan. This is a significant change from the 2017 survey which only had 47 per cent.

Figure 6.6 Long term (5 year) switching rates



Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 57, AEMC analysis. Note: based on the question "In the past 5 years, has your business changed the following".

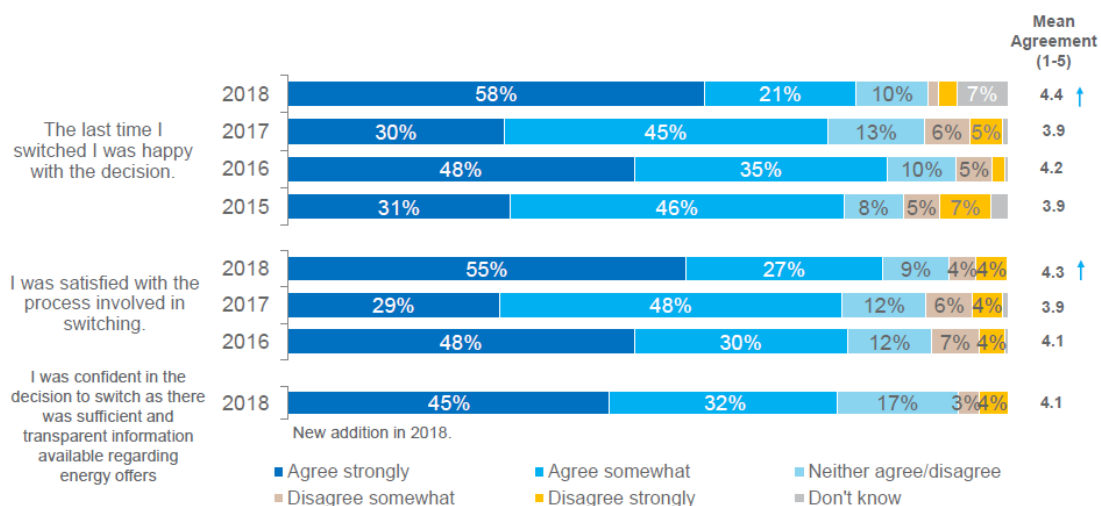
6.2.4 Outcomes from switching

Those business consumers that reported switching energy provider or plan within the past five years were generally very satisfied with the outcome, increasing from the 2017 survey.²¹⁶ Most consumers (77 per cent) agreed that their confidence in switching was driven by sufficient and transparent information regarding alternative offers, as illustrated in Figure 6.7.

²¹⁵ *ibid*, pp. 48-49.

²¹⁶ *ibid*, p. 57.

Figure 6.7 Outcomes from switching



Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 57.

This reinforces the importance of efficient information transfers from retailers to consumers. When it occurs correctly, it facilitates switching that is more likely to result in improved outcomes for consumers. This is further evident in the increase in the number of businesses that agreed that they were satisfied with the process involved in switching.

The result suggests that customers that can navigate the market and switch, do so relatively easily. It also highlights the growing divergence in the ease of comparing offer results discussed in section 6.2.2. That is, there is simultaneously a growing proportion of businesses that find it both very easy to compare offers, and a growing proportion of businesses that find it fairly difficult to compare offers.

6.2.5 Reasons for not switching

There has been a significant increase in those businesses who did not specify a reason for not investigating switching options over the past 12 months, from 11 per cent last year to 48 per cent in 2018.²¹⁷ This could be a sign of complete disengagement by businesses that may have been disenfranchised by the complexity of offers and recent price increases. Other results suggest that there is an opportunity for businesses to re-engage with the market if energy retailers approach them correctly.

The second most common reason given for not switching was that there was a perception that there was 'no other options/alternative available'.²¹⁸ This reason has increased by 10 per cent to 13 per cent in 2018.²¹⁹ Again, this result could be a result of disengagement in the market, with consumers considering that 'all retailers are the same'.

²¹⁷ *ibid*, p.55.

²¹⁸ *ibid*.

²¹⁹ *ibid*.

Of note, there was a significant increase in agreement with the statement “I would switch my energy company if I was not satisfied with my current company” (up to an average of 4.6 on a 1 to 5 scale, up from 4.1 in 2017). This suggests most businesses would move if dissatisfied with their energy provider. If a degree of dissatisfaction is not present, the 2018 data suggests switching is less likely due to a combination of a:

- lack of time or energy to find a better deal (3.4, up from 3.1 in 2017)
- preference to reduce cost through reducing energy consumption (3.8, up from 3.1 in 2017)
- lack of trust in providers promising a better deal (3.8, up from 3.6 in 2017).

Savings required to switch

As previously mentioned in section 6.2.1, the main reason for business operators to switch retailers or plans is factors relating to price. Businesses suggested the bill savings required to consider switching had:

- increased by six per cent to 26 per cent of the quarterly bill for electricity
- decreased by five per cent to 20 per cent of the quarterly bill for gas.

When surveyed, businesses were asked for savings required to switch in dollar amounts. This translated to a \$122 increase in savings required on quarterly electricity bills and a \$21 decrease in the savings required from quarterly gas bills.²²⁰

6.2.6 Changes to contracting for high consuming business

Some electricity and gas consumers that just fall under the jurisdictional definition of a small customer face unique issues more akin to those faced by commercial and industrial customers. For instance, many of these businesses with high levels of consumption actually negotiate a bespoke energy offer, as opposed to adopting the published and generally available offers that are advertised. This is common when a business owns several premises with high levels of consumption that individually fall under the small customer threshold.

Discussions with retailers and several independent energy brokers revealed that these businesses that require a bespoke electricity quote have faced a reduction in the length of time they have to accept the offer before the quote expires (also known as the validity of the quotes). Where previously they may have had a week or so to accept or reject a quote, some businesses have reported being given one to two days. This reduction in validity can cause issues for businesses, because it limits:

- the time for board, chief executive, or chief financial officer approval, particularly as these quotes are often worth tens of thousands of dollars
- the ability to compare the quotes with other retailers.

If quotes are not accepted in time, retailers will re-assess and often re-price the offer.

²²⁰ *ibid*, p.73.

Retailers suggest this issue has arisen in more recent times due to increased volatility in wholesale electricity markets. If true, this means that retailers are contracting additional wholesale coverage to meet the energy needs of such businesses. This issue was also raised in the NSW Business Chamber's submission to the ACCC's retail electricity pricing inquiry issues paper.²²¹

Anecdotal evidence from energy brokers also suggested that for businesses that consume high levels of gas, there are very few providers, with often only one of the Big 3 actually offering gas contracts. This raises legitimate concerns about the state of competition for these businesses. This is likely due to low availability of upstream gas, leading to retailers prioritising coverage of their residential load, and not prioritising the acquisition of additional gas for businesses with high consumption levels. This issue may be more prevalent for commercial and industrial businesses.

6.3 Other bill management responses

Switching retailers or plans is one way that businesses can manage their energy bills. Other options include reducing usage and investing in technology.

6.3.1 Reducing usage

More than half of businesses that experienced bill shock in the past year have made efforts to reduce energy consumption to deal with the higher expenses.²²² This is despite only 27 per cent of businesses increasing their energy consumption.²²³

6.3.2 Other technologies

Businesses can augment their energy supply through the installation of other technology, such as solar panels, solar hot water and energy management systems. The grant programs from the New South Wales and Victoria governments mentioned above can assist in implementing alternative sources of energy and/or purchasing new equipment that enhances productivity to offset energy costs.

Despite these incentives, a growing proportion of more than half the businesses surveyed suggested that they 'definitely won't' use or take up technologies such as solar panels or hot water, smart meters, batteries, or energy management systems.²²⁴ The technology that businesses stated they 'already have' the most was smart meters. This was predominately and predictably by Victorian businesses, at 28 per cent.²²⁵ This is followed by solar panels at 18 per cent.²²⁶ Interestingly, almost all household and small business consumers in Victoria have smart meters installed, which is notably

221 This can be found at: www.accc.gov.au/system/files/NSW%20Business%20Chamber.pdf

222 *2018 Retail Competition Review - Small Business Survey Report*, Colmar Brunton, p. 69, Canberra, 2018.

223 *ibid.*

224 *2018 Retail Competition Review - Small Business Survey Report*, Colmar Brunton, pp. 78-81.

225 *ibid.*

226 *ibid.*, p. 75.

higher than the response from the businesses surveyed.²²⁷ This could suggest that not all businesses are aware they have smart meters. If true, this diminishes some of the value that businesses can ascertain from their installed smart meter.

Battery storage and electric vehicles technology had the lowest uptake, with one per cent or less of businesses stating they already have these technologies.²²⁸

These statistics and the importance placed on energy costs and savings in switching behaviours, suggests the promotion of these technologies to business operators needs to focus on the financial outcomes. These outcomes include the return on investment (ROI) and payback periods, concepts which are well understood by the business community.

6.4 Preferences and issues for different business types

As discussed earlier, businesses are a diverse segment of the economy, with vastly different energy needs and behaviour. This section of the chapter provides a breakdown of these different preferences and issues for a range of business types.

The analysis examines differences along the following characteristics:

- jurisdiction
- annual turnover²²⁹
- number of employees²³⁰
- metropolitan and regional location
- industry types.

This section uses information from the online and phone survey carried out by Colmar Brunton in the *Small Business Survey Report*.²³¹

6.4.1 Differences between jurisdictions

There are a number of differences between the experience of business consumers across jurisdictions. Some of these are expanded on further in the respective jurisdictional appendices.

Generally speaking, businesses from regions with price deregulation were more satisfied with the value for money of electricity than those states with price regulation, with the exception of the Australian Capital Territory.²³² Satisfaction with choice of energy companies and plans, and confidence in finding the right information to choose

²²⁷ For more information on the Victorian smart meter rollout from 2013 to 2016, as well as the current status of the technology see: www.energy.vic.gov.au/electricity/smart-meters.

²²⁸ *ibid*, pp. 77-78.

²²⁹ Consistent with the Australia Taxation Office's definitions of business size.

²³⁰ Consistent with the Australian Bureau of Statistics' definitions of business size.

²³¹ Colmar Brunton used a base of 840 responses from a combination of online and phone surveying techniques.

²³² *2018 Retail Competition Review - Small Business Survey Report*, Colmar Brunton, p.91, Canberra, 2018.

energy plans, is also significantly higher in the jurisdictions with deregulated prices.²³³ However, this distinction is not present in the satisfaction with customer service provided by electricity retailers, which is relatively uniform across the NEM.²³⁴ Consumers in jurisdiction with price regulation are less likely to have been approached by alternative energy retailers in the last 12 months.²³⁵

South Australian consumers are the least satisfied with the switching process and its outcomes, compared to the other competitive jurisdictions.²³⁶ Business consumers from South Australia are also less likely to have been approached by an alternative energy retailer in the last 12 months compared to those in New South Wales, South East Queensland and Victoria.²³⁷

6.4.2 Differences between annual turnover

Less than \$200,000

These businesses were more likely to report that they are happy with their current energy retailer, arrangement and/or plan at 29 per cent, with the average across all businesses at 27 per cent.²³⁸

\$200,000 to \$2 million

These businesses largely followed the trends observed across all businesses and there was no difference in outcomes across respective jurisdictions. There were no statistically significant divergences of the responses from this market segment from the majority of responses by business consumers.

More than \$2 million

Businesses in this segment had lower average satisfaction for value for money of electricity, with 39 per cent rating it as 'fair', compared to the average across all businesses of 24 per cent. This may be due to the higher amount these businesses will typically pay for their energy needs.²³⁹

6.4.3 Differences by number of employees

Non-employing businesses

Types of businesses that comprise of sole traders and partnerships had an annual cost of electricity that was significantly lower, at \$1,932, than the average across all businesses

²³³ Ibid.

²³⁴ *ibid*, p.89.

²³⁵ *ibid*, p. 156.

²³⁶ *ibid*, pp.86-144.

²³⁷ *ibid*, pp.190-191.

²³⁸ *ibid*, pp.86-144.

²³⁹ *ibid*, p.188.

at \$5,841.²⁴⁰ They also reported significantly less quarterly savings on their electricity bills required to consider switching at \$164, however as a proportion of overall bill it is considerably more (34 per cent) than the average across all businesses (19 per cent).²⁴¹ These business operators were also significantly less likely to:

- know whether businesses in their state/territory can choose their electricity company - nine per cent answered 'don't know', compared to the average across all businesses of four per cent
- know whether businesses in their state/territory can choose from a range of electricity plans - 14 per cent answered 'don't know', compared to the average across all businesses of nine per cent
- be unaware of their current billing situation - 11 per cent answered 'don't know', compared to the average across all businesses of 13 per cent.²⁴²

'Micro' businesses (1-4 employees)

Businesses that employ one to four employees had an annual cost of electricity that was significantly lower than the average across all businesses of \$5,841, with a segment average of \$3,779.²⁴³ These businesses reported they required a lower level of saving to consider switching at \$213. However, this is roughly in the same proportion of total bill as the average across all businesses.²⁴⁴

These businesses were also significantly less confident in finding the right information to choose their energy plans, with a mean of 6.3 (compared to 6.9 across all businesses).²⁴⁵ These operators were also more likely to indicate they 'definitely won't' use applications to remotely control appliances in the next two years.²⁴⁶

'Small' businesses (5-19 employees)

Businesses that fall into the small business size segment have significantly higher annual electricity costs than the average across all businesses. The average for this segment was \$7,465 per annum in 2018, \$1,624 higher than the average business.²⁴⁷ This could be reflective of the weighting used in the analysis, which is based on the *Australian Bureau of Statistics Business Characteristics survey* that found most businesses in Australia are non-employing and micro businesses.

²⁴⁰ ibid, p.140.

²⁴¹ ibid, p.208.

²⁴² ibid, pp.162-163, 199.

²⁴³ ibid, p.207.

²⁴⁴ ibid, p.208

²⁴⁵ ibid, p.169. Rating out of 10, with zero being not confident and 10 being extremely confident.

²⁴⁶ ibid, p.216.

²⁴⁷ ibid, p. 207.

'Medium' businesses (20-199 employees)

Businesses that have 20 to 199 employees were significantly more confident in finding the right information to help choose energy plans with a mean of 7.2, compared to the average of 6.9 across all businesses.²⁴⁸

These businesses:

- tended to have significantly higher annual energy costs than the average, possibly reflecting higher levels of consumption²⁴⁹
- were more optimistic in their uptake of new technologies to augment or reduce their energy demand, because they were more likely to utilise smart meters, electric vehicles and energy management systems in the next two years²⁵⁰
- were less likely to rule out that they 'definitely won't' have solar hot water systems in that time.²⁵¹

These trends may indicate that businesses with more employees have greater capacity to investigate switching and the adoption of new technologies.

6.4.4 Metropolitan and regional business differences

Businesses that operate in metropolitan regions are significantly more satisfied with the level of choice available for energy companies and plans (80 per cent), compared to regional businesses (72 per cent). Metropolitan businesses are also significantly more likely to:

- state they would be interested in switching but are not currently looking - 43 per cent compared to 31 per cent for regional businesses²⁵²
- rate a higher importance on 'the company offered an upgraded meter' - mean rating of 4.3 compared to 3.2 for regional businesses
- rate a higher importance on 'bonus rewards such as gym memberships etc.' - mean rating of 3.3 compared to 2.2 for regional businesses²⁵³
- speak a language other than English at home - 13 per cent for metro compared to five per cent for regional businesses. The most common languages were Chinese and a combination of European languages.²⁵⁴

Conversely, the businesses in regional areas are more likely to:

²⁴⁸ *ibid*, p.169. Rating out of 10, with zero being not confident and 10 being extremely confident.

²⁴⁹ *ibid*, p.207.

²⁵⁰ *ibid*, pp.210-216.

²⁵¹ *ibid*, p.211.

²⁵² *ibid*, p.177.

²⁵³ *ibid*, p.186.

²⁵⁴ *ibid*, p.219. Rating out of 10, with zero being not important and 10 being extremely important.

- be actively investigating the different energy offers or options in the past 12 months - 41 per cent of regional businesses (compared to 29 per cent for metropolitan businesses)²⁵⁵
- have changed energy company or plan in the last five years (that is 'switched anything') - 65 per cent for regional compared to 52 per cent for metropolitan businesses²⁵⁶
- 'already have' solar panels - at 27 per cent compared to 19 per cent for the NEM²⁵⁷
- answer that they have no other options here/only one provider - at 25 per cent compared to six per cent for metropolitan businesses.²⁵⁸

6.4.5 Differences between business industry types

Administrative and support services

Businesses in this segment of industry types were more satisfied with the choice of energy companies and plans, with a mean of 3.8, compared to the average of 3.7.²⁵⁹ This is expected to be due to the higher concentration of these businesses in metropolitan areas of the NEM, who were also significantly more satisfied with the available choice.

These businesses were also significantly less likely to have switched in the past five years due to reasons relating to price. Forty per cent of these businesses answered 'price related' as a reason for switching compared to the average across all businesses of 78 per cent.²⁶⁰

Agriculture, forestry and fishing

These businesses reported significantly higher active investigation of different energy offers or options in past 12 months, at 50 per cent compared to average across all businesses of 32 per cent.²⁶¹

This industry segment were also significantly more likely to 'already have' solar panels, at 43 per cent compared to average of 19 per cent, and solar hot water systems, at 25 per cent compared to the average of 10 per cent.²⁶²

²⁵⁵ *ibid*, p.169.

²⁵⁶ *ibid*, pp.210-216.

²⁵⁷ *ibid*, p.210.

²⁵⁸ *ibid*, p.177. Rating out of five, with zero being very dissatisfied and five being very satisfied.

²⁵⁹ *ibid*, p.166.

²⁶⁰ *Ibid*, p.185.

²⁶¹ *ibid*, p.169.

²⁶² *ibid*, pp.210-216.

Wholesale trade

This business segment has a higher rate of active investigation of different energy offers or options in the past 12 months, at 58 per cent compared to an average of 32 per cent.²⁶³

These businesses also placed greater importance on the 'brand and reputation' of the energy company with a mean of 7.7, compared to an overall average of 6.2.²⁶⁴

Professional, scientific and technical services

Businesses in this market segment were significantly less likely to have experienced bill shock in the past few years at 29 per cent, when the average is 33 per cent.²⁶⁵ As such, operators of these businesses are less active in investigating different energy offers or options in the past 12 months. Only 16 per cent of these businesses stated they had investigated offers and options, compared to the average of 32 per cent.²⁶⁶ Businesses in this industry segment were more likely to have indicated that they 'definitely won't' have solar panels in the next two years, at 46 per cent compared to an average of 39 per cent.²⁶⁷ This may be due to an inability to install such products on their premises.

Financial and insurance services

Businesses operators in this segment were more likely to agree that energy retailers do not market themselves enough, with a mean of 3.5, compared to the average of 2.9.²⁶⁸

Rental, hiring and real estate services

Businesses in this industry segment were significantly less likely to have experienced bill shock in the last few years, at 25 per cent compared to the average of 33 per cent.²⁶⁹

They were more likely to indicate a preference to save energy rather than seek out a better deal, with a mean of 3.8 compared to the average of 3.4.²⁷⁰ As well as this, these businesses are less likely to agree that energy retailers market themselves strongly enough, with a mean of 2.7, while the average is 2.9.²⁷¹

Businesses in this industry segment are quite conservative about their adoption of new technologies to augment or reduce their demand. They are significantly more likely to

²⁶³ *ibid*, p.169.

²⁶⁴ *ibid*, p.186. Rating out of 10, with zero being not important and 10 being extremely important.

²⁶⁵ *ibid*, p.202.

²⁶⁶ *ibid*, p.169.

²⁶⁷ *ibid*, p.210.

²⁶⁸ *ibid*, p.174 Rating out of five, with zero being disagree strongly and five being agree strongly.

²⁶⁹ *ibid*, p.199.

²⁷⁰ *ibid*, p.210. Rating out of five, with zero being disagree strongly and five being agree strongly.

²⁷¹ *ibid*, p.174. Rating out of five, with zero being disagree strongly and five being agree strongly.

have stated that they 'definitely won't' have solar panels, solar hot water systems and battery storage or utilise energy management systems in the next two years.²⁷²

Retail trade

These businesses are significantly more likely to have experienced bill shock in the last few years, at 52 per cent, compared to the average of 33 per cent.²⁷³

Accommodation and food services

This business segment was more likely to indicate that they most likely won't utilise energy management systems in the next two years. Almost half these businesses indicated this preference, compared to an average of less than one-third across all businesses.²⁷⁴

These businesses also have a significantly higher annual cost of electricity at \$12,187 compared to the average business surveyed at \$2, 800.²⁷⁵

6.4.6 Cultural and linguistically diverse businesses

Businesses with cultural or linguistic differences made up nine per cent of the survey population, which is lower than the national average of 27.3 per cent.²⁷⁶ This lower percentage may be due to possible communications barriers that exist for this type of business operator.

Operators of businesses with cultural and linguistically diverse backgrounds place a significantly higher than average importance rating for:

- the 'availability of green/renewable energy plans', with a mean of 6.8 compared to an average of 4.2
- the 'ability to purchase or access technologies such as solar panels, energy storage batteries, live energy use data or energy management systems' with a mean of 6.5 compared to an average of 4.0
- 'company offered an upgraded meter', with a mean of 5.4 compared to an average of 3.6.²⁷⁷

These businesses also experienced language barriers in terms of:

- understanding their energy bill (13 per cent)
- considering an alternative energy company, plan or contract (11 per cent)
- considering investing in energy management or generation (seven per cent).²⁷⁸

²⁷² *ibid*, pp.210-216.

²⁷³ *ibid*, p. 202.

²⁷⁴ *ibid*, p. 215.

²⁷⁵ *ibid*, p. 140.

²⁷⁶ Australian Bureau of Statistics, *Census reveals a fast changing, culturally diverse nation*. ABS, Media Release, 27 June 2017. Note: figure quoted is for non-English languages spoken by a person at home.

²⁷⁷ *2018 Retail Competition Review - Small Business Survey Report*, Colmar Brunton, p. 186, Canberra, 2018.

7 New retail energy products and services

Summary of key findings

- With energy price rises, and material reductions in the cost of solar PV, batteries and energy management services, consumers are increasingly recognising the opportunities distributed energy resources (DER) provide in managing energy bills, particularly electricity.
- Solar PV is a well-established technology. In 2017, 23 to 47 per cent of households surveyed across jurisdictions had solar panels, and there was a 25 per cent increase in solar PV installations across the NEM.
- Batteries are a less mature technology. Penetration in 2017 remained low at two to five per cent of households surveyed, but 25 to 46 per cent indicated an interest in adopting batteries in the next 12 months. The International Energy Agency estimates costs reduced by 40 per cent from 2010 to 2017 and significant cost reductions are projected in future.
- In addition to multiple complex retail energy offers and varying protections under the NECF and ombudsman schemes, DER customers also:
 - have to choose from unfamiliar products and brands
 - have experienced a decrease in the cost of DER
 - are generally satisfied with solar system performance
 - must generally rely on Australian Consumer Law and jurisdictional fair trading offices for consumer protections.
- The Commission modelled the potential benefits a range of consumers may achieve if they invest in solar PV and batteries. Inclusive of payments under the Small-scale Renewable Energy Scheme, the analysis found:
 - investments in solar PV systems provide consumers with financial benefit, even if they do not consume any of the electricity generated
 - time-of-use tariffs provided better financial outcomes for solar than flat rate tariffs
 - batteries are generally not a financial investment for consumers, and around 80 per cent cost reductions are required to make these as financially attractive as solar PV systems.

278 Ibid, p219.

Recommendation: Taking into account any voluntary codes that have been developed by the ECA and industry to protect consumers receiving services from new energy service providers, the AEMC will assess whether changes to the National Energy Consumer Framework are also required to protect these consumers.

Solar, batteries, and energy management tools and services are a growing part of the energy market. The NECF was originally developed with the view that all consumers would be supplied through the interconnected electricity system, supported by a retail contract. Many products and services, such as solar and battery systems, are now provided by different entities and the previous clear role definition is becoming less defined.

Consumer protection mechanisms that exist under the NECF and Australian Competition Law apply in different ways for customers who invest in solar and battery products. This can lead to some confusion for customers when trying to resolve complaints relating to these products.

The work to assess whether changes to the National Energy Consumer Framework are also required work will commence in March 2019, unless otherwise advised by the COAG Energy Council, and will take account of the findings of the review into embedded networks and stand-alone power systems.

The 2017 Review showed that consumers are increasingly demanding more control over their energy decisions and are interested in a range of innovative products that are becoming available, due to changing technology. Specifically, the desire of consumer to manage their electricity use has taken on an even greater imperative over the past year with the large increase in retail electricity prices across the NEM in 2017. The large increase in prices have coincided with a 25 per cent increase in the uptake of solar PV in 2017, the largest percentage increases since 2011.

While retail competition has traditionally focussed on retail energy prices, to meet changing consumer preferences, new energy service providers and retailers have sought to supply a range of new products and services. Competition on products and services has capitalised on economy-wide changes such as the rollout of smart meters, the deployment of solar and batteries, broader digitalisation and moves to the 'internet-of-things'. A growing part of the electricity market now involves DER, which collectively involves solar PV systems, batteries, and energy management products and services.²⁷⁹

The growth of DER impacts competition in retail electricity markets in two ways:

- the increase in self-generation and consumption management, reduces the amount electricity purchased from retailers

²⁷⁹ DER is a term that refers to an integrated system of energy equipment co-located with consumer load that encompasses both 'smart' (the ability to respond automatically to short-term changes in prices or signals from wholesale markets or elsewhere in the supply chain) as well as 'passive' (for example, a rooftop solar PV system that feeds power into the grid when the sun shines, rather than in response to short-term changes in prices or signals from elsewhere in the supply chain).

- it represents a growing market for products and services which retailers compete.

This chapter describes developments in new product and services markets that allows consumers to better manage their electricity usage and overall bill, along with the differences in the experiences from traditional retailer-purchased electricity. It examines:

- developments in the DER part of the market
- the consumer experience in choosing and using DER products.

This chapter assumes most consumers' current interest in DER is to replace a proportion of their retailer-supplied electricity, but not to go off-grid.²⁸⁰ Further, while recognising that energy efficiency measures, including insulation and energy efficient appliances, can affect household or business electricity consumption, these are not explored in this chapter.

Additionally, due to limited availability of data demonstrating the impact of solar and battery systems on domestic gas consumption or fuel switching, this matter has not been discussed in the chapter. There has also been limited de-centralised innovation in the gas market, so changes in the gas market have not been explored.

7.1 The distributed energy resources market

The DER market comprises three broad areas:

- solar PV systems
- batteries
- energy management products and services.

7.1.1 Solar PV systems

Solar PV costs and subsidies

Solar PV systems are a well-established technology with reliable electricity output over long life-times. In the last few years there have been increases in solar panel efficiency, large declines in the cost of panels and steady growth in take up by households. This decreasing cost and the large increase in retail electricity prices over 2017 (discussed further in *Solar PV penetration*) coincided with a significant increase in the consumer uptake of solar PV in 2017.

There are three main components influencing the cost to consumers for solar PV systems:

²⁸⁰ The assumption is supported by a number of reports. For instance, the KPMG *Customer experiences and future developments report December 2016*, for Energy Consumer Australia highlights that at this stage the substantial costs of going off-grid limit the likelihood of this occurring. Further, the *Household solar power and battery survey - Interim report*, March 2017, conducted by Ausgrid demonstrates that to be able to disconnect from the grid is extremely important or very important to 33 per cent of respondents, while to store excess solar electricity and to save money on a bill is extremely important or very important to 94 per cent and 88 per cent of respondents respectively.

- the actual cost of the panels and inverters, which is influenced by global technology developments and the exchange rate of the Australian dollar
- the incentives available to Australian consumers to purchase systems
- domestic labour costs for installation.

The International Energy Agency (IEA) stated in its annual *World Energy Outlook* that costs of new solar PV systems have come down by 70 per cent since 2010.²⁸¹ Bloomberg New Energy Finance (BNEF) has estimated that for every doubling in cumulative capacity installed, costs have fallen by 26.5 per cent, although they note that further cost reductions are likely to be slower in future.²⁸²

Government subsidies, that in the past encouraged the uptake of solar PV systems, have been reducing in recent years. The Small-scale Renewable Energy Scheme, which provides an up-front payment for small-scale technology certificates that solar PV systems generate, ceases in 2030. Further, the high feed-in-tariffs offered by various jurisdictional governments have been discontinued, or at least are no longer available to new consumers. This means consumers will generally receive less government assistance in purchasing solar PV systems.

Domestic labour costs are the final component of end user solar PV costs, accounting for the installation of the system. These costs are expected to grow over time if demand is maintained or increased, and grow in accordance with wage growth in future years.

In terms of the projected prices consumers may face when investing in solar PV systems, the declining technology costs are offset to some extent by the reduction in government assistance. According to Jacobs' forecast for AEMO, capital costs for solar PV systems will decline by 1.5 per cent per annum in real terms.²⁸³ Similarly, BNEF estimated a reduction in capital costs of around 28 per cent from 2016 to 2030, or two per cent reduction per annum. As the Small-scale Renewable Energy Scheme ends in 2030, the out-of-pocket costs for customers are expected to increase by 11 per cent over the same period. Figure 7.1 below shows the net outcome for consumers. According to BNEF, the forecast shows that 2018 is expected to be the lowest cost year to install solar PV system due to the inter-relationship of system cost reductions and government rebates. The Australian Energy Council recently noted it expects future growth in installations to be driven by the commercial and industrial sectors, rather than the residential sector.²⁸⁴

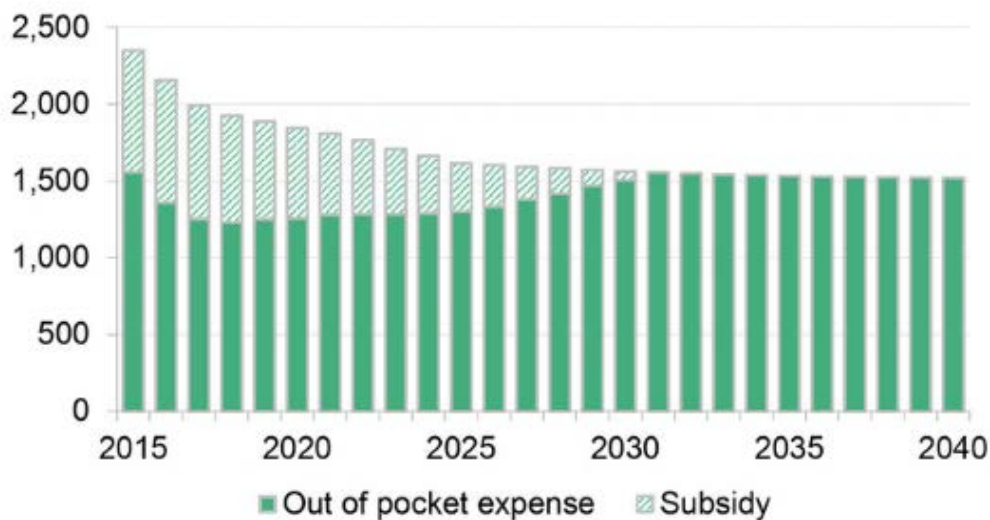
281 International Energy Agency, *World Energy Outlook 2017 - Executive Summary*, IEA, France, p.1.

282 Bloomberg New Energy Finance, *Australia behind-the-meter PV and storage forecast*, 22 February 2017.

283 Jacobs, *Projections of uptake of small-scale systems*, June 2017.

284 Australian Energy Council, *Solar Report*, January 2018, pp.1-2.

Figure 7.1 Average PV residential capital cost forecast (nominal AUD/kW)



Source: Bloomberg New Energy Finance, *Australia behind-the-meter PV and storage forecast*, 22 February 2017.

Solar PV penetration

At the end of 2017, the installed residential and commercial solar PV capacity was 6.4GW from approximately 1.8 million installations.²⁸⁵ This represented around 12 per cent of the total generation capacity in the NEM.²⁸⁶ The ECA Survey indicated that 23 to 47 per cent of consumers already have solar panels with ten to 39 per cent of consumers considering installing them in the next 12 months.²⁸⁷

There were 154,877 residential solar PV installations in 2017, an increase of 25 per cent from 2016, which added 938MW of solar capacity to the NEM.²⁸⁸ This large increase in installations coincides with the announced increases in the prices of retailer-purchased electricity across the NEM in 2017. As noted in chapter 4, this increase was approximately \$110 to \$316 in South Australia, New South Wales and Victoria.

As the cost of DER continues to decrease, the business case for consumers investing in solar PV systems improves. This is also highlighted in the Commission's modelling in section 7.6.3, where the impact of real electricity price changes on solar PV investments are external.

In May 2018, the Clean Energy Council estimated installed solar PV capacity in 2017 at 1.1 GW.²⁸⁹

²⁸⁵ Australian Energy Council, *Solar report*, January 2018, p. 3.

²⁸⁶ Australian Energy Market Operator, *National Electricity Market*, AEMO, 2018, viewed 15 March 2018, www.aemo.com.au/Electricity/National-Electricity-Market-NEM.

²⁸⁷ Energy Consumers Australia, *Energy Consumer Sentiment Survey November 2017*, Sydney, p. 25.

²⁸⁸ Data from the Clean Energy Regulator. Note: the 2017 figures may be underestimated as solar customers/installers have 12 months to register their systems with the Clean Energy Regulator, creating a lag in data availability.

²⁸⁹ Clean Energy Council, *Clean Energy Australia Report 2018*, May 2018, p. 18.

7.1.2 Batteries

Battery characteristics and costs

Batteries enable energy to be stored for use at another time. For consumers with solar PV systems, a battery can be charged with any excess electricity their panels generate. A battery could also be charged from the grid at times of low prices. This allows the consumer to use the stored energy at a later time, which can reduce their overall retailer-supplied electricity consumption and their use of high priced electricity during peak times).²⁹⁰ This can also provide benefit to both networks and retailers. By reducing peak demand, it could assist in managing potential constraints on the network. Further, if a customer allows their consumption from the grid to be curtailed when wholesale spot prices are high, it provides a physical hedge product to retailers, similar to a wholesale cap contract.

In contrast to solar PV panels, battery technology is less mature. Batteries use a range of different technologies, and have with different characteristics.²⁹¹ These characteristics include:

- battery size, referring to the nominal capacity that the battery can hold, measured in kWh
- the continuous power output, measured in kW²⁹²
- the relationship between battery life and the number of charging and discharging cycles
- warranty periods.

With the expected growth of electric vehicles, batteries will increasingly also be considered as stationary or mobile.

Unlike solar PV, there is no nation-wide government program supporting battery installation. However, some grants are offered to households from state governments. For instance, the Australian Capital Territory Government Program provides subsidised battery storage to Canberra homes. The aim of the program is to provide batteries to up to 5,000 homes and businesses by 2020.²⁹³ The program has a number of 'smart' requirements for the batteries installed, including the ability to respond to market and tariff changes, and collection of data from the batteries. The 'smart' requirements of these batteries have already led to the development of one of the world's largest battery information database. The 'smart' battery requirement of the program has seen the genesis of operational virtual power plants (discussed in Box 7.4).

²⁹⁰ Generally, feed-in tariffs for exported household solar energy is considerably lower than purchased energy from a retailer. This accentuates the financial benefit shifting energy generation to match consumption patterns.

²⁹¹ Examples of these battery technologies include lithium ion, lead acid and flow batteries.

²⁹² Batteries are rated for both their power and energy capacity. For example, the Tesla Powerwall 2 has a power output of 5kW, while its storage capacity is 13.2kWh.

²⁹³ Australian Capital Territory, Environment, Planning and Sustainable Development Directorate – *Environment, Next generation Renewables*, viewed 4 April 2018, www.environment.act.gov.au/energy/cleaner-energy/next-generation-renewables.

Consistent with solar PV systems, the cost of batteries is reducing significantly. The IEA stated battery costs reduced by 40 per cent between 2010 and 2017.²⁹⁴ According to BNEF, the price of lithium-ion batteries fell 73 per cent during the same period. BNEF projected the global annual rate of cost reduction for batteries to be ten per cent from 2017 to 2020, falling to around seven per cent annually by 2030. By BNEF's learning curve, and the indicative prices for Australia from Solar Choice, the real price for a battery in Australia in 2027 will be around \$582/kWh of installed rated capacity (compared with \$1,470/kWh of installed rated capacity today).²⁹⁵

In its modelling for AEMO, the consultancy firm Jacobs also predicted a significant drop in battery costs. Under a neutral scenario, a battery (excluding inverter) is projected to fall from \$650/kWh of installed rated capacity in 2017 to just below \$300/kWh of installed rated capacity in 2037.²⁹⁶

Continued battery price reductions are expected due to:

- technology improvements
- competition between the major battery manufacturers
- the increased scale of battery manufacturing, including the volumes driven by electric vehicles.

The significant historical and forecast cost decreases reported for solar PV and battery technologies is in stark contrast to the increase in retailer-supplied electricity prices in 2017. Currently, the capital costs associated with deploying batteries are high, making any investment case challenging. However, increases in retail electricity prices combined with estimated decreases in battery costs, is likely to result in more consumers considering investing in solar PV and battery systems in the future. Section 7.6.3 assesses the financial viability of a combined solar PV system and batteries with changes in retail electricity prices in further detail.

Battery penetration

Data from the Clean Energy Regulator (CER) indicates the number of concurrent small-scale solar PV and battery installations reached 4,325 installations in 2017.²⁹⁷ This was an increase from 1,569 installations in 2016. Notably, these figures only relate to instances where solar PV and batteries were installed together, and are not exhaustive, as submitting the data to the CER was voluntary. SunWiz's Battery Market Report suggested that 20,789 energy storage systems were installed in 2017, a three-fold increase on the 6750 installed in 2016.²⁹⁸ The ECA Survey indicated that two to five per

²⁹⁴ International Energy Agency, *World Energy Outlook 2017 - Executive Summary*, IEA, France, p.1.

²⁹⁵ Bloomberg New Energy Finance, *Australia behind-the-meter PV and storage forecast*, 22 February 2017. Note: installed rated capacity of a battery does not account for losses technical restrictions, such as depth of discharge, on battery performance.

²⁹⁶ Jacobs, *Projections of uptake of small-scale systems*, June 2017.

²⁹⁷ Due to a lag between system installation and reporting as well as battery data being provided on a voluntarily basis, the CER's estimates are likely to understate the actual number of battery systems installed.

²⁹⁸ Clean Energy Council, *Clean Energy Australia Report 2018*, May 2018, p. 34.

cent of consumers already have battery storage installed while 25 to 46 per cent of consumers stated they are considering installing the technology in the next 12 months.²⁹⁹

Unlike solar PV systems, there is no reliable data on the number of household battery installations in Australia or the combined capacity of those installations. The AEMC is currently examining a rule change request for the creation of a register to capture data on battery deployments.³⁰⁰

Box 7.1 provides case studies of two battery storage manufacturers, Tesla and Sonnen, which have entered the Australian market. The discussion focuses on the variety of additional services they offer. It also highlights how some batteries provide services that go beyond time-shifting solar energy consumption.

Box 7.1 Battery manufacturers in the residential market

There are more than 20 battery manufacturers supplying the residential market in Australia.³⁰¹ The batteries offered by manufacturers vary in price and additional services offered. Both Tesla and Sonnen are examples of lithium-ion battery manufacturers that place a focus on their additional service offerings.

In 2017, Tesla launched its second generation battery/inverter, the Powerwall 2. With a usable capacity of 13.5kWh, the Powerwall 2 retails for around \$11,500 and is sold through both independent installers and retailers.³⁰²

Tesla offers several value added elements to increase its customer value, including:

- using an algorithm to optimise charging and discharging to maximise the life of the battery
- live software updates including a future update that will incorporate future weather forecasts into charge/discharge decisions
- a mobile application that allows customers to monitor PV generation, storage and home energy use in real time.

Sonnen is a German battery manufacturer that offers residential batteries with a storage size between 2 kWh and 16 kWh.³⁰³ The indicative price for an 8 kWh battery with inbuilt inverter is \$13,000 installed.³⁰⁴ Sonnen also include the

²⁹⁹ Energy Consumers Australia, *Energy Consumer Sentiment Survey November 2017*, Sydney, p. 25.

³⁰⁰ For more information see:
www.aemc.gov.au/rule-changes/register-of-distributed-energy-resources

³⁰¹ For more information see:
www.solarchoice.net.au/blog/solar-choice-battery-storage-product-lifespan-comparison-tool.

³⁰² Solar Choice, *Is home solar battery storage worth it?*, January 2018, viewed 1 February 2018, www.solarchoice.net.au/blog/home-solar-battery-storage-worth-it-2018.

³⁰³ Sonnen, *sonnenBatterie*, Sonnen, 2018, viewed 1 February 2018, www.sonnenbatterie.de/en-au/sonnenbatterie.

³⁰⁴ Solar Choice, *sonnenFlat: sonnen's 'free' / flat-rate electricity plan looks great. Is it worth it?*, 2017, viewed 13 February 2018, www.solarchoice.net.au/blog/sonnen-sonnenflat-is-it-worth-it.

software that optimizes the operation of the battery and provides an app to monitor, analyse and control the supply and demand of a household.

Sonnen offers a product with a fixed charge for all of the customer's electricity traditionally purchased from a retailer. The product, called SonnenFlat, is offered in three tariff packs: \$30, \$40 and \$50 per month, depending on the customer's annual consumption, and their solar PV and battery system size.³⁰⁵ In return, Sonnen retains the right to dispatch some of the energy stored in the battery to assist in the stabilisation of the electricity grid or wholesale spot trading. Through provision of such discounted offerings, Sonnen aims to aggregate its fleet for future participation in frequency control ancillary services (FCAS) markets. Sonnen has partnered with a retailer, Energy Locals, to provide grid energy for customers as well as to participate in the various markets of the NEM.

Tesla believes the biggest barriers to expansion for battery manufacturers in Australia are the connection arrangements with DNSPs, in particular a lack of standardisation amongst networks. Similarly, Sonnen highlighted that different regulation regimes between states can complicate business processes.³⁰⁶

7.1.3 Energy management products and services

There are a broad range of energy management products and services available to consumers to help them manage their solar PV, batteries and energy consumption. While some of these have been developed specifically to assist consumers to manage their electricity self-generation and consumption, others have been developed to provide consumers with lifestyle and convenience benefits. The latter are often described as 'smart home' offerings. The line between the two is not a clear one, particularly when both can improve energy efficiency and provide consumers with cost savings.

The underlying drivers of these developments are digitalisation and the 'internet of things'. As more intelligent and connected appliances/devices have been deployed, the opportunities for remote management and automation have grown. In the smart home context this has led to services such as:

- remote or automated lighting and temperature controls
- alarm and security services
- automated irrigation
- remotely managed or automated appliances.

In relation to managing electricity self-generation and consumption, the range of devices and services enable:

³⁰⁵ Sonnen, *sonnenFlat*, Sonnen, 2018, viewed 1 February 2018, sonnen.com.au/en-au/sonnenflat.

³⁰⁶ AEMC identified this issue through the number of projects, specifically, *Integration of storage review* and *Distribution market model review*. The AEMC's *Electricity network economic framework review 2018* will be focussed on the connection arrangements for DER. Energy Networks Australia is developing national connection guidelines to promote a consistent approach to grid connections.

- consumers to understand the link between their consumption patterns and their bill outcomes
- optimisation of electricity flows between a premise, a battery and the grid
- participation in the wholesale electricity market (demand response), FCAS market or network support services.³⁰⁷

Box 7.2 provides a case study of the energy technology company Wattwatchers that designs solutions to monitor, analyse and control electrical circuits in real-time. It highlights that Wattwatchers is partnering with a range of new energy service providers and retailers to provide a variety of services for end-users.

Box 7.2 Wattwatchers

Wattwatchers specialises in solutions to monitor, analyse and control electrical circuits in real-time over the internet. A compact Wattwatchers device is connected to meter boxes or distribution boards. Enabled by cloud-connected apps and dashboards, this allows electricity consumers to see and better manage:

- whole-of-home or small business energy use and costs including imports from the grid and any export back to the grid (i.e. from solar and/or storage systems), including budgeting tools, alerts and faults diagnostics
- solar energy system performance and self-consumption of electricity generated on-site, including coordinating the time-of-use of appliances to optimise the value of solar installations and progressively other on-site infrastructure such as energy storage systems and EV charging
- remotely monitor and/or control larger electricity loads within homes and businesses such as heating and cooling, hot water systems and pool pumps, and making these available for demand response programs.

Wattwatchers supplies its technology to software partners, energy services companies and utilities, including major programs such as the AEMO-ARENA demand response initiative. A number of Wattwatchers' partners make the technology available directly to households and businesses, including Solar Analytics, Simble Sense, Energy OS (formerly, HabiDapt), Planet Footprint, and GreenSync and its emerging Decentralised Energy Exchange (deX).

According to Wattwatchers, there are now about 20,000 of their units in the field, mainly in Australian households bundled with solar monitoring. Wattwatchers noted that there is growing interest in the marketplace for new energy technologies. The main barriers include substantial market inertia, with consumers not switching to other options even when they are unhappy. However, the sales pipeline has broadened with more interest in the product from commercial and industrial users, retailers and software and hardware partners, including smart home applications and growing international uptake.

³⁰⁷ FCAS provided through the market ancillary service provider category. Virtual power plants can potentially maximise these value streams.

7.2 Retail competition and innovation

The increasing penetration of solar PV and battery systems and the increasing availability of energy management products and services have provided consumers with additional options to:

- manage their electricity self-generation and consumption
- improve their energy efficiency and lower their energy costs
- enhance their comfort levels and lifestyle.

These developments also have implications for retail competition. In particular, there are observable changes in the industry structure and the conduct of market participants.

The structure and boundaries of the electricity industry are now less defined than previously:

- Generation is still predominately, but no longer solely, a centralised function. Two-way electricity flows are being created, complicating the operation of the distribution systems.
- Energy management services are being provided by a range of firms. 'Smart home' services are currently provided by telecommunications companies (e.g. Telstra³⁰⁸ and Optus³⁰⁹), electricity and systems integration companies (e.g. Clipsal), IT and online companies (e.g. Google³¹⁰ and Amazon³¹¹). Associated software for batteries and solar PV is being provided by innovative companies (e.g. Reposit and Solar Analytics).

As highlighted in the 2017 Review, these developments are changing the competitive dynamic of the industry. These innovative technologies and new entrants bring new threats and opportunities to the traditional market participants. The result has been the creation of a range of new and innovative offers to consumers. These include:

- In late 2017, AGL launched a Virtual Solar product to its New South Wales customers. Under this plan the customer pays a subscription fee to benefit from the output of a solar system that AGL owns and maintains offsite. There are three subscription sizes: 3 kW, 4 kW and 5 kW. According to AGL, the solar generation credits lower a customer's electricity bill. AGL recommends this product to those who rent, live in an apartment or have a roof unsuitable for solar PV.³¹²
- In late 2017, Powershop launched a demand response program to its Victorian customers. If customers reduce their power usage when Powershop asks them to

³⁰⁸ See Telstra smart home suite: www.telstra.com.au/smart-home

³⁰⁹ See the Optus smart home suite:
www.accessories.optus.com.au/GroupServlet?category=Smart+Home&group=Home+Automation

³¹⁰ See Google Home supported devices such as smart plugs, switch and lighting switch control:
http://store.google.com/au/product/google_home_learn

³¹¹ See Amazon smart echo smart home device:
www.amazon.com.au/Introducing-Amazon-generation-Charcoal-Fabric/dp/B0749WVS6H

³¹² AGL, *Introducing AGL Virtual Solar*, AGL Energy Limited, Sydney, 2018, viewed 11 February 2018, <https://aglsolar.com.au/virtual-solar/>.

(usually during extreme weather events), then the customer is paid a fee. Curtailment is usually targeted at a ten per cent reduction in usage, for no more than four hours. The customer benefit is a \$10 power credit.³¹³

- A technology rather than competitively driven innovation is Ergon Energy's PeakSmart air-conditioning offer that has been running for the past few years.³¹⁴ It offers its customers up to \$400 for linking an air-conditioner to its PeakSmart program. The program lets Ergon Energy remotely control the air-conditioner to reduce demand for a few days of the year, for short periods of time, when the electricity network reaches peak demand in extreme weather conditions. Ergon Energy states that a customer does not notice any difference in their comfort levels.³¹⁵

As highlighted last year, retailers had either commenced or were beginning to explore partnering with new energy service providers. This trend has continued and is a prevalent source of innovation in the sector. It allows retailers to compete effectively in this part of the market, without investing in their own research and development. There are many partnership models observable in the industry.

For example, EnergyAustralia in partnership with Redback technologies offers customers a pack of solar PV panels and a battery, allowing customers to store excess solar energy for use at a later time.³¹⁶ Habidabt in conjunction with Ergon Energy delivers smart home energy services to residential and small business consumers.³¹⁷ Energy Locals has partnered with start-up Nexergy to offer a peer-to-peer energy trading service. Other joint projects between Reposit and retailers are described in the case study below. Reposit has allowed retailers and customers to access additional value streams from batteries, as discussed in Box 7.4.

313 Powershop, *Curb your power. Ease the demand, get rewarded*, Powershop Australia Pty Ltd, Melbourne, 2018, viewed 10 January 2018, <http://www.powershop.com.au/demand-response-curb-your-power/>.

314 In November 2015, the AEMC made the Expanding competition in metering and related services rule requiring the AER to develop, consult on and publish distribution ring-fencing guidelines. These guidelines limit the ability of network providers to offer contestable electricity services. The guidelines ensure even ground for all market participants. Network providers may still make offers to customers related to grid congestion management.

315 Ergon Energy, *PeakSmart air conditioning*, Ergon Energy, 2018, viewed 15 February 2018, <https://www.ergon.com.au/network/manage-your-energy/incentives/peaksmart-air-conditioning>.

316 EnergyAustralia, *Redback Smart Hybrid System*, EnergyAustralia, Sydney, 2017, viewed 15 February 2018, www.energyaustralia.com.au/home/solar-and-batteries/redback-smart-hybrid-system.

317 Ergon Energy, *HomeSmart*, Ergon Energy, Townsville, 2018, viewed 15 February 2018, www.ergon.com.au/retail/residential/account-options/homesmart.

Box 7.4 Reposit

A Reposit box is a hardware product for consumers with a solar and battery system that learns the customer's consumption, solar generation, battery behaviour and energy costs in real-time. It monitors the customer's usage patterns and to optimise battery charging and discharging via its 'intelligent pre-charge'.

The Reposit box enables customers to earn GridCredits by discharging their battery during peak demand periods. It also enables customers to benefit from the intelligent pre-charge function where the battery is charged at off-peak rates. Reposit estimates these two additional revenue streams may be worth up to \$236 per year and \$350 per year respectively.

Reposit currently works with three retailers:

- Diamond Energy - offers Reposit customers its GridCredits100 plan. The plan allows Diamond Energy to draw electricity from household storage when wholesale electricity is expensive. In exchange, customers are credited \$1 for each kWh of electricity Diamond Energy draws from their storage system.
- Powershop – offers Reposit customers its Grid Impact plan. The plan allows Powershop to activate a customer's solar battery systems when electricity prices or demand for electricity are high. In exchange, customers earn a set amount of GridCredits every three months.
- Simply Energy – purchases energy directly from Reposit customers with batteries in return for GridCredits. The program is part of the Australian Capital Territory Government's Next Generation Renewables Program and is available only in the Australian Capital Territory.

Consumers with other retailers can use the Reposit box, but the GridCredits product is not available to them.

Reposit also works with networks, rewarding consumers if they supply electricity to assist networks with issues such as voltage control, solar curtailment and demand response.

The average Reposit customer's daily self-consumption rate is 87 per cent, subject to time of the year. The change over winter is substantial, but there is no subsequent bill increase as a result of intelligent pre-charging.

According to Reposit, there are no regulatory barriers to enter the retail energy market. However, Reposit identifies two other barriers to expansion, namely:

- Limited consumer awareness of options to address energy bills. A survey conducted by Reposit reported 75 per cent of participants do not see any alternative to retailers and their offers. A large proportion of respondents believe that the payback period for a solar system is more than ten years.
- Retailer margins are tight, resulting in any extra funds being diverted into retention and acquisition, with limited investment in innovation.

7.3 Retail competition and aggregation services

One emerging area of the market that has significant potential is aggregation and trading of distributed demand response and generation.

As DER continues to become more prevalent in the market, its potential value as an aggregated resource increases through participation in the wholesale market (e.g. by selling energy, demand response or participation in FCAS markets) and the provision of services to networks (e.g. network support or voltage control).

Having effective aggregation of DER requires fit for purpose connection and access arrangements so that consumers have access to the network to trade electricity.³¹⁸ The AEMC has considered the aggregation and optimisation question, and our view is that this should be done via price signals, not regulation control.

There are already a number of examples of aggregation services in the market. Technology companies, Reposit and Greensync have both launched virtual power plant software to enable aggregation at the retail level (the Reposit example is explored in Box 7.4). Similarly, AGL is trialing a virtual power plant in South Australia.

One of the difficulties associated with aggregation services, is the problem of split incentives for participants:

- For consumers to cede control of their electricity generation or consumption, they need to gain an offsetting benefit.
- For retailers to participate in aggregation, which potentially leads to a reduction in demand and revenues, the schemes need to reduce their operational costs, such as network costs, or provide an additional or alternative benefit as a risk-management tool (to complement or replace traditional hedging contracts).
- For networks to participate, they need to gain operational benefits (improvements in congestion management) or cost benefits (reduction in operational costs or avoidance of capital expenditure).

Another difficulty for retailers is achieving the required scale, while offering flexibility to consumers. For example, at an individual level the value of providing such services are outweighed by the costs, whereas an entire local community may offer significant value. Hence aggregation is about getting to the point at which the value of a service is greater than the associated costs.

A market model currently being developed that has the potential to resolve the split incentive and associated problems is the deX platform (described further in Box 7.5).

³¹⁸ The issue was discussed in the AEMC's *Distribution Market Model Report, 2017*. The AEMC will further consider the arrangements for distribution network access and connection charging for distribution energy resources through the *2018 Electricity Network Economic Regulatory Framework Review*.

Box 7.5 deX

deX is a digital exchange platform that creates an open marketplace where distributed energy can be bought and sold by businesses, households, communities and utilities.³¹⁹ The project is funded by the Australian Renewable Energy Agency with its contribution of \$450,000 towards the \$983,000 cost of the pilot project. deX is led by energy tech start-up GreenSync. The project also brings together energy retailers, network operators, equipment manufacturers, technology vendors, integrators and installers.³²⁰

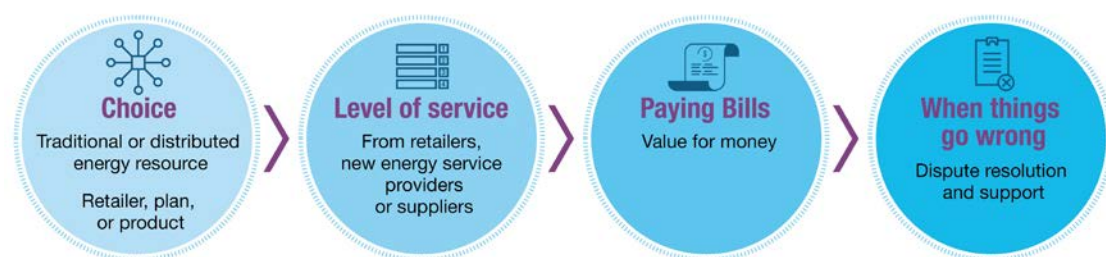
The deX platform was designed to make it possible for the owners of solar PV and battery systems to benefit from helping to manage grid constraints. The platform allows solar PV and battery systems to be visible and controllable, enabling them to be contracted, aggregated and coordinated to provide electricity services. The deX system displays buyers and sellers, records agreements between them, tracks transactions, and verifies that both parties have met their obligations.³²¹

For participation, customers need to sign up with a particular retailer and agree to make a certain amount of stored energy available if it is required. In return customers receive a financial payment. Currently, the pilot program is focussed on testing its ability to meet peak demand and power quality issues, and demonstrate how market-integrated batteries might address grid constraints. To test the platform, deX has partnered with United Energy, the network provider on the Mornington Peninsula, Victoria. deX also cooperates with Energy Queensland with the aim to create a state-wide virtual power plant.

7.4 Customer experience with distributed energy resources

This part of the chapter examines the customer experience in choosing and using DER. It does this with reference to the customer experience map described in chapter 1 (Figure 7.2 below).

Figure 7.2 Customer experience map



³¹⁹ deX, *Everyone benefits, anyone can join*, deX, 2018, viewed 22 February 2018, <https://dex.energy/why-join-dex/>.

³²⁰ For a full list of partners, see <https://dex.energy/whos-already-joined/dex-partners-stakeholders/>

³²¹ ARENA, *Let's talk about deX: a new way to buy and sell electricity*, ARENA, 31 August 2017, viewed 22 February 2018, arena.gov.au/blog/dex/.

Observations on the consumer experience with DER are contrasted with those of consumers relying solely on retailer-supplied electricity throughout the chapter:

- section 7.5 explores the motivations behind *choosing* DER against traditional retailer supply
- section 7.6 explores the considerations and process of *choosing* to invest in DER
- section 7.7 explores the level of satisfaction with *value for money*
- section 7.8 explores issues around customer protection and *dispute resolution*.

7.5 Electricity supply: considering distributed energy resources

Consumers have varying motivations for their interest in DER. According to the Queensland Household Energy Survey³²² and Energy Consumers Australia:³²³

- financial considerations are the primary driver for customers to install a solar PV system or a battery
- a high proportion of consumers look to reduce their dependence on traditional electricity retailers
- a smaller proportion of respondents cited environmental considerations as their motivator.

The 2017 Review showed that there was already a high level of adoption of solar panels by residential consumers in the NEM, and that over the next two years a further 18 per cent were interested in installing solar panels, and 20 per cent batteries.³²⁴ Continuing on from this, Energy Consumers Australia's *Consumer Sentiment Survey* from September 2017 indicates a majority of consumers in each market region either already have or are considering purchasing solar panels. Additionally, between 25 and 47 per cent of consumers in each NEM region is considering purchasing a battery.³²⁵

7.6 Choosing product and services

7.6.1 Navigating the market

A wide range of products but limited product and brand familiarity

Consumers that are motivated to explore or buy DER have to deal with the complexity of the products in the market and the varying service levels offered by new energy service providers and established electricity retailers. Their task is further complicated

³²² Energex, Ergon Network, Powerlink, *Queensland Household Energy survey 2016*, Summery Presentation, viewed 16 February 2018.

³²³ ECA, *Consumers investing in solar and batteries to control bills*, ECA, Sydney, 2018, viewed 16/02/2018, energyconsumersaustralia.com.au/news/consumers-investing-in-solar-and-batteries-to-control-bills/.

³²⁴ AEMC, *2017 AEMC Retail Energy Competition Review*, July 2017, Sydney, p. 98.

³²⁵ Energy Consumers Australia, *Energy Consumers Sentiment Survey*, November 2017. The latest results from this question in the April 2018 survey were not able to be processed in time for publication, so the September 2017 results are presented instead.

by a lack of product and brand familiarity. For example, consumers are less familiar with batteries as a product compared to a washing machine. Whereas for a washing machine most consumers have some level of price and performance understanding, that is not the case for consumers looking to purchase batteries. Further, the brands associated with solar PV and battery systems may also be outside the consumers' previous experience.

The variety of products and lack of familiarity create an information challenge to consumers. While different to the decision that consumers need to make in choosing between a large number of retailers and thousands of pricing plans, it is just as substantial and challenging.

Information sources to help consumers navigate the market

There is a wide range of information resources available to consumers to help them understand their options and buy DER. These sources include government, industry associations, not-for-profit organisations, and commercial companies:

- A key organisation in this regard is the Clean Energy Council (CEC)³²⁶ which has:
 - a list of solar PV modules and inverters that meet Australian Standards
 - an accreditation scheme for installers that allows installations to be eligible for government incentives such as Small-scale Technology Certificates.³²⁷
- Australian Standards are developing guidelines for the design and installation of stationary battery systems.³²⁸
- Various jurisdictions publish consumer guides, such as the NSW *Home Solar Battery Guide*.³²⁹
- The Alternative Technology Association (ATA) regularly publishes advice on the economics of solar and batteries, including case studies of actual consumers.³³⁰
- There are many commercial websites offering information and solutions.³³¹

Given the range of products available, and the variety of individual circumstances, generic advice is only useful to a degree. When selecting an electricity retail tariff for a customer with solar PV, the independent and free help available to consumers in all

³²⁶ The CEC is the peak body for the clean energy industry in Australia. Its membership includes organisations involved in renewable generation, storage, energy efficiency and installations.

³²⁷ CE, *Battery Install Guidelines for Accredited Installers*, 15 August 2017.

³²⁸ For more information see: www.standards.org.au/StandardAU/Media/SA-Archive/OurOrganisation/News/Documents/Consultation-commences-on-new-draft-standard-for-On-Site-Battery-Systems.pdf.

³²⁹ For more information see: NSW Department of Planning and Environment, *NSW Home Solar Battery Guide*, NSW Government, Sydney, 2017.

³³⁰ ATA is a not for profit organisation that provides expert, independent advice on sustainable solutions for the home to households, government, industry and corporate clients.

³³¹ Examples of this include www.solarchoice.net.au, www.solarquotes.com.au, and www.choice.com.au.

jurisdictions other than Victoria, does not provide enough information for consumers to make a fully informed decision.

For example, Energy Made Easy does allow consumers to pick a retail tariff based on the size of the solar feed-in tariff, but does not consider this as part of a broader electricity bill. This means consumers might make a decision based on the best feed-in tariff, but could be worse off because the supply and usage charges of purchased electricity is higher than the average. However, this functionality may be included in the planned upgrade of Energy Made Easy, as discussed in section 5.4.3. However, this functionality is included in Victoria Energy Compare, with estimated tariff prices including an estimation of the credit provided by the solar system.

To optimise their bill by themselves, consumers have to account for how the daily supply charge, usage charges and feed-in tariff would effect their bill in relation to their new system. This is highly complex and is very difficult for the average consumer. To really understand whether, or the extent to which, DER are of benefit to a consumer, individual analysis must be undertaken. This is addressed in section 7.6.2.

The addressable market

Despite high levels of consumer interest in DER and strong rates of adoption, it is important to note that a range of consumers do not have access to these options. For example, consumers who cannot afford the asset and installation costs, renters, apartment dwellers, and people who live in heritage properties with development restrictions do not have options to participate in this part of the market directly.³³² For these consumers, particularly those motivated by environmental concerns, there are indirect options available. Many retailers offer the option of 'green' power supplied from renewable sources, and as noted in section 7.2, there are options like AGL's Virtual Solar product available.

7.6.2 Key purchase decisions

If a consumer is motivated to invest in DER and has done preliminary research on their options, they should then undertake an analysis specific to their circumstances. Key purchasing decisions they will need to address are:

- what is the optimal system size?
- is it better to pay for the system outright or seek financing?
- what is the financial benefit of investing in DER compared to buying electricity from a retailer?³³³

³³² Moreland Energy Foundation, *Solar in heritage areas*, Moreland Energy Foundation, Brunswick, 2018, viewed 16 February 2018, www.mefl.com.au/news/solar-heritage-areas/#more-3432.

³³³ An investment decision could also be informed by potential value of other services, e.g. FCAS market participation, network support, and consideration of the trade-offs between providing those services and using the DER for customer's own needs only.

System sizing

System sizing has a direct impact on the costs and benefits associated with solar PV system or battery investments.

Until recently, the most common recommendation for solar system sizing was to base it on a consumer's electricity consumption. Consumers were advised to:

- choose a solar system size that generates enough electricity to meet daytime demand³³⁴
- self-consume at least 30 per cent of the energy that a solar system produces.³³⁵

The logic underpinning this advice was that purchasing a system that generates more electricity than daytime peak demand was effectively an investment to receive a feed-in tariff. With the exception of consumers getting a premium feed-in tariff under a jurisdictional scheme, this strategy delivered a poor investment return. However, as the costs of solar PV systems have fallen, the approach to sizing has changed. For example, in a publication on solar system sizing the ATA emphasised that bigger solar systems are better.

According to the ATA, the change in the optimal investment approach has occurred because:³³⁶

- Per panel, large solar PV systems are cheaper than small ones. Since August 2012, larger residential systems have halved in price, while smaller ones have only decreased by a quarter.
- Feed-in tariffs are increasing, due primarily to recent increases in the wholesale electricity price.

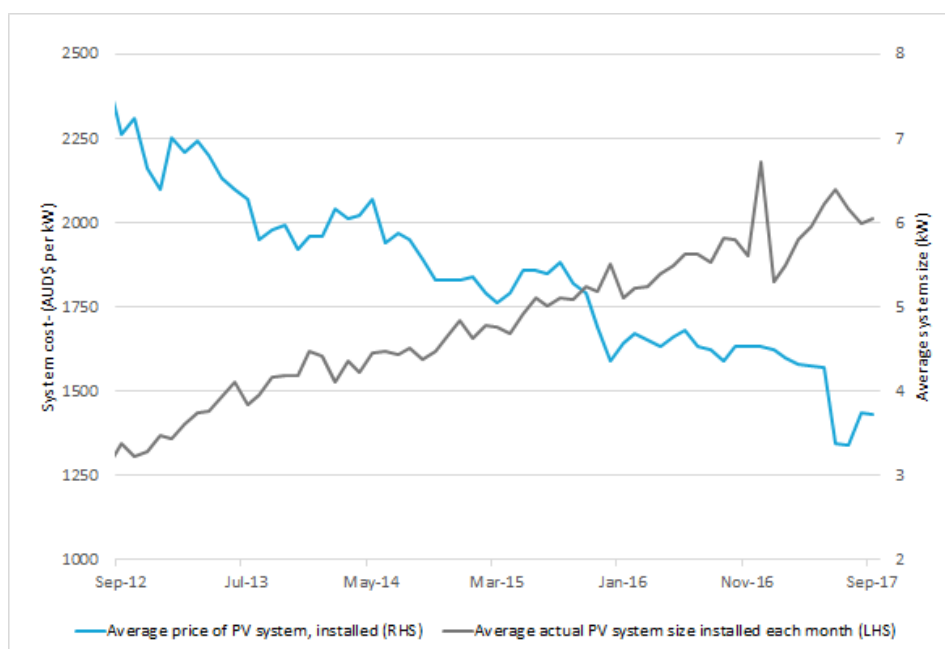
This change in sizing preferences is observable in Figure 7.3 (below) which shows a notable increase in the size of systems installed in the past two to three years.

³³⁴ Solar Choice, *What size solar power installation should buy?*, Solar Choice Pty Ltd, Manly, 2017, www.solarchoice.net.au/blog/what-size-solar-power-installation-should-you-buy/.

³³⁵ Solar Choice, *Sizing residential solar & battery systems: A quick guide*, Solar Choice Pty Ltd, Manly, 2017, www.solarchoice.net.au/blog/residential-solar-battery-system-sizing-quick-guide.

³³⁶ Alternative Technology Association, *Solar sizing: Bigger is Better*, Discussion paper, Melbourne, May 2017.

Figure 7.3 Average size of solar system installed compared to cost (\$/kW)



Source: Solar Choice, Australian PV Institute.

A separate decision is required on the size of a battery system. The New South Wales Government has published its recommendations, and notes that optimal sizing depends on the customer's goal in installing a battery.³³⁷ To choose the right size battery system a customer needs to:

- calculate how much excess solar energy will be generated during the day (subtracting the energy consumption during sunny hours from the typical solar generation in a day)
- decide whether to store enough excess solar for all their needs (this is dependent on the solar system output and their battery size), or, just to cover the energy used during the evening peak.

Paying for distributed energy resources

A consumer's decision on how to fund their investment in DER will affect the investment returns they achieve. A summary of some factors for consumers to consider in assessing the main financing options for consumers follows:³³⁸

- *Outright purchase:* Purchasing a solar PV and/or battery system outright is the most cost effective way to fund the investment. If this option is available, the customer does not have to pay any interest, and the returns are tax-free (as the system reduces non-deductible living expenses). When assessing a solar PV system or battery purchase from a purely financial perspective, a customer should

³³⁷ Department of Planning and Environment, 2017, *NSW Home Solar Battery Guide*, NSW Government, Sydney.

³³⁸ The discussion in this section assumes a consumer has selected an optimal distributed energy system for their needs, and the system performs as expected. The only relevant variable is therefore the financing decision the consumer makes.

consider other investment options that will be subject to tax and may or may not have higher internal rates of return.

- *Mortgage*: Customers with a mortgage could redraw on their mortgage to fund an investment in DER. This will be a reasonable investment if the internal rate of return on the DER investment exceeds the mortgage rate.
- *Personal loan*: An option for consumers is to use a personal loan to fund their system investment. This will only be a good decision if the PV system's internal rate of return exceeds the loan rate. However, a customer should be cautious about low finance rates attached to an inflated PV system price, direct debit fees that continue after a loan has been repaid or high installation costs that may be part of an offer.
- *Lease*: Solar suppliers and retailers offer customers leasing programs for solar systems and batteries, e.g. power purchase agreements. Under these agreements a lease provider owns, installs and maintains the system, and a customer pays them a regular fee based on either a fixed monthly price or on the energy used from the system. To make this option viable for a customer the electricity bill savings should exceed the lease repayments over time.

Box 7.6 AGL solar Smart Plan

AGL offers to its residential and commercial customers solar *Smart Plan*.³³⁹ This product offers an effective power purchase agreement with customers. Recently, under the Smart Plan, AGL and Yalumba winery in the Barossa Valley, South Australia, completed the installation of a 1.39 MW solar system. AGL designed and installed the system, reserving the ownership rights for it. AGL also took the responsibility to monitor and maintain the system to ensure good performance. Yalumba purchases the energy generated by the system for a defined term.

According to AGL, Yalumba is now paying a fixed rate for solar energy which is lower than their current grid tariff. There was also no upfront investment required from Yalumba. It is expected that AGL's solar system will generate approximately 2,050 MWh of solar energy annually.

7.6.3 Financial outcomes from investing in distributed energy resources

While the Commission does not provide investment advice, and cautions consumers to conduct their own due diligence in considering an investment in DER, the review modelled a range of scenarios to understand the financial consequences of a household investing in either a solar PV system or a solar PV and battery system. The analysis conducted was purely financial in nature and did not account for any 'non-market values' such as any 'positive feelings' from reducing dependence on retailer-purchased

³³⁹ AGL, *AGL and Yalumba: Australia's largest winery solar installation in five facts*, AGL Energy Limited, Sydney, 2018, viewed 11 February 2018, <https://aglsolar.com.au/blog/agl-yalumba-australias-largest-winery-solar-installation-five-facts/>.

electricity.³⁴⁰ The broad assumptions are outlined below, with a more detailed description of the modelling, assumptions and sensitivities tested available in Appendix D. The basic method was to compare the bill outcomes a customer would experience if they had solar PV and/or batteries compared to their bill with all retailer-supplied electricity. The analysis considers a 'simple battery' that simply shifts excess solar generation to match consumption. The analysis does *not*:

- allow for the battery to be charged from the grid at off-peak times
- account for any additional revenue streams from reducing consumption at peak demand from retailers or networks
- include any 'intelligent' charging/discharging that accounts for future weather predictions or estimating future consumption.

If the battery modelled did account for these 'smart' factors, it would likely improve the financials of an investment. However, this may come at a cost of increased battery degradation and a reduced usable lifetime.

The other key modelling descriptions and assumptions were:

- Results are for a south of Sydney electricity-only household located in the Endeavour Energy distribution network.³⁴¹
- The roof is north-facing, with a 30 degree tilt and unshaded.
- A 'double peak' load shape was applied, with weekends and public holidays taken into account, at 80 per cent of weekday load.
- The following consumption levels were assumed:
 - low consumption – 9.3 kWh per day, which equates to 3,388 kWh per year
 - medium consumption – 14.8 kWh per day, which equates to 5,396 kWh per year
 - high consumption – 20.6 kWh per day, which equates to 7,530 kWh per year
 - very high consumption – 30.3 kWh per day, which equates to 11,048 kWh per year.³⁴²
- The market offer tariff that gives a median household bill was applied. An option was to use the optimal tariff, but as the modelling is over a 20-year period, the tariff that gave a median bill outcome was considered more appropriate (and it is a more conservative assumption).

³⁴⁰ Non-market value is a term used commonly in environmental economics to capture any non-financial utility a consumer might gain from a place, good or service.

³⁴¹ Tariffs of Endeavour Energy distribution network are considered to be representative for the National Electricity Market (on advice given by the ATA).

³⁴² The consumption levels for New South Wales- climate zone 5, where this system is assumed to be located, were taken from the ACIL Allen report for the AER, *Electricity and gas bill benchmarks for residential customer 2017 report*, p59, viewed 4 March 2018, www.aer.gov.au/retail-markets/retail-guidelines-reviews/electricity-and-gas-bill-benchmarks-for-residential-customers-2017. The analysis does not assume the household has controlled load, which may overestimate the network component of the bill.

- The following capital costs (in AUD\$ 2017/18) were assumed:
 - Batteries: \$1,470/kWh of installed rated capacity in 2017 and \$582/kWh of installed rated capacity in 2027.³⁴³
 - Solar PV systems: 3kW - \$3,870, 6kW - \$6,320 and 9kW - \$10,180.³⁴⁴
- The lifetime of batteries and inverters are assumed to be equal to the typical operational warranty period of ten years. Solar PV lifetime was assumed equal to the average performance warranty of 20 to 25 years.
- The modelling is over a 20-year period, meaning there is a requirement to re-invest in batteries and an inverter after ten years, but no requirement to re-invest in solar PV panels.

All modelling was conducted using the ATA's Sunulator model. This is a freely available public model that consumers can use, while inputting data and assumptions specific to their circumstances.

The modelling demonstrates the following consistent results.

Box 7.7 Key findings of distributed energy resources modelling

- Time-of-use tariff structures always returned a higher net present value (NPV) and return on investment (ROI) than flat tariff structures for the same solar PV investment, in all scenarios simulated under the given assumption in Appendix D. The discounted payback period was typically a year more for a solar PV system of any size on a flat tariff than on a time-of-use tariff.
- The indicative modelling results suggest that solar PV systems are a good financial investment for customers for all scenarios considered. That is, for all consumption levels and solar PV system sizes, there were positive ROI and NPV results.
 - The modelling indicated that even a premises without any internal energy consumption can obtain a positive NPV and ROI. This reflects that the levelised cost of electricity for a solar PV system over the 20-year period is less than the feed in tariff available in the modelled scenarios.
- The size of a battery system is currently inversely proportional to the ROI. That is, the larger battery the lower its return. It means that the higher capital costs associated with a larger sized battery will exceed any savings

³⁴³ Bloomberg New Energy Finance, *Australia behind-the-meter PV and storage forecast*, 22 February 2017. Note: installed rated capacity of a battery does not account for losses or technical restrictions, such as depth of discharge, on battery performance

³⁴⁴ February 2018 residential solar power system pricing guide from SolarChoice was used for indicative pricing. Sydney prices were applied; 6kW system price is an interpolation of 5kW and 7kW system prices. The 9kW system was found by interpolating 7kW and 10kW systems and the average of those values was taken. Solar Choice, *February 2018 Solar PV Prices*, viewed 20 February 2018, <https://www.solarchoice.net.au/blog/solar-power-system-prices>.

that can be made over time from a larger sized battery.

- Concurrent solar PV and battery installations had a lower NPV and ROI in every scenario than the same sized solar PV-only systems. This reflects that while some solar and battery systems have a positive ROI in a small number of scenarios, the best investment is currently in a solar-only system.
- Some further specific conclusions from the analysis include that if a consumer wants to invest in a battery, the financials can be improved if:
 - the consumer is a high energy user and is planning on buying an above average size solar system coupled with a small battery
 - there is a special program available in a customer's area that includes a battery subsidy, such as virtual power plant trials.

The key financial results are summarised in Table 7.1 below.

Table 7.1 Summary of the most representative results of the modelling

Low consumption level: 1-2 person household		
Annual bill without investment (year one): \$1,293		
System size	3kW solar PV system	3kW solar PV system, 6kWh battery storage
Capital cost of investment	\$3,870	\$12,690
Annual electricity cost (first year)*	\$605	\$348
Percentage cost saving (first year)	53%	73%
Net present value	\$5,169	-\$2,631
Discounted payback period	7 years	20 years
Return on investment	15.5%	0.5%
Medium consumption level: 3-4 person household		
Annual bill without investment (year one): \$1,866		
System size	6kW solar PV system	6kW solar PV system, 6kWh battery storage
Capital cost	\$6,320	\$15,140
Annual electricity cost (first year)*	\$562	\$218
Percentage cost saving (first year)	69.9%	88.3%
Net present value	\$10,788	\$4,260
Discounted payback period	6 years	16 years
Return on investment	18.6%	6.1%

High consumption level: 5 or more person household		
Annual bill without investment (year one): \$2,475		
System size	9kW solar PV system	9kW solar PV system, 6kWh battery storage
Capital cost	\$10,180	\$19,000
Annual electricity cost (first year)*	\$549	\$164
Percentage cost saving (first year)	77.8%	93.4%
Net present value	\$15,067	\$9,128
Discounted payback period	6 years	10 years
Return on investment	16.7%	8.1%
Very high consumption level: 5 or more person household with a pool		
Annual bill without investment (first year): \$3,479		
System size	9kW solar PV system	9kW solar PV system, 6kWh battery storage
Capital cost	\$10,180	\$19,000
Annual electricity cost (first year)*	\$1,373	\$966
Percentage cost saving (first year)	60.5%	72.2%
Net present value	\$17,529	\$11,853
Discounted payback period	6 years	10 years
Return on investment	18.7%	9.4%

*Note: no conditional discounting was applied.

Battery arbitrage strategy

A potential method to improve the financial viability of batteries is by arbitraging between high and low usage rates on time-of-use tariffs. This involves charging the battery when tariffs are low, such as during off-peak periods, and using the stored electricity in peak pricing periods. This strategy can be used with, or independently of, a solar PV system.

In order for a battery to be financially attractive without being connected to a solar PV system (i.e. just through tariff arbitrage), the difference between the highest and lowest rates on a time-of-use tariff must be greater than the levelised cost of electricity of the battery.³⁴⁵ The pricing condition is a necessary, but not sufficient condition for a

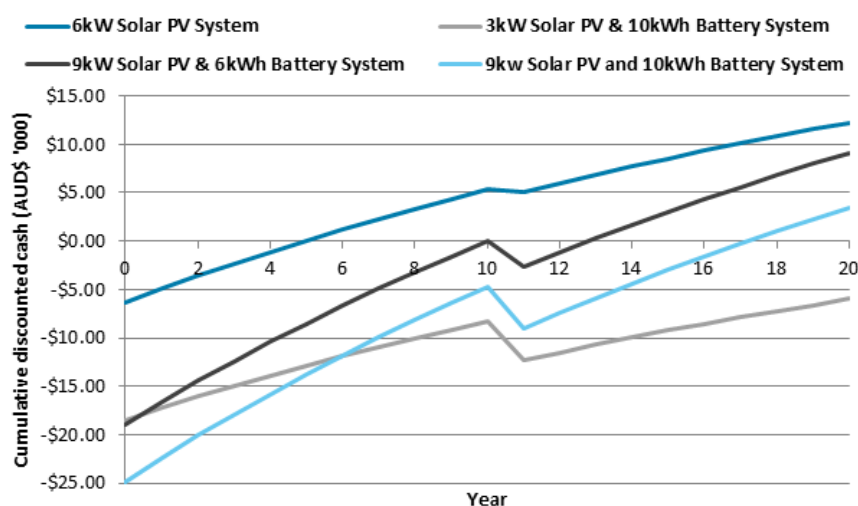
³⁴⁵ Levelised cost of electricity is a well-used metric in the industry and refers to the cost (cents/kWh) of a system over its lifetime. In the example above, if the levelised cost of electricity of a battery was

positive investment return. A positive financial outcome would only be achieved if the battery was always charged using off-peak rates and always discharged during peak rates. Any charging or discharging in shoulder periods would reduce the financial attractiveness.

Net present value of investments

Despite being an important and indicative metric in the case studies above, the results of the discounted payback period needs to be examined carefully. It is important to assess the impact that any replacement costs, such as those for batteries and inverters (which are assumed to have a ten-year life) have on the NPV of the investment over 20-years.³⁴⁶

Figure 7.4 Discounted cash flow of investment, high consumption level household on the time-of-use tariff



AEMC modelling using ATA's Sunulator.

Figure 7.4 shows that in assessing the NPV of the investment, the requirements for re-investment over the 20-year period of the analysis needs to be taken into account.

- For the 6kW solar PV system, the NPV remains positive from around the five year mark. However, the growth in NPV dips at the ten-year mark, reflecting the need to invest in a replacement inverter.
- In all of the scenarios above involving batteries, the larger reduction in NPV that occurs when the battery also needs to be replaced, extends the period before the breakeven level occurs.

It is possible that in certain circumstances a customer could achieve a positive NPV just before the re-investment requirements. This may be without them without

\$0.40/kWh, then the difference between the peak and off-peak pricing would need to be \$0.40/kWh or greater, and the consumer would have to do all their charging at the off-peak rate and all their consumption during peak tariff periods.

³⁴⁶ The NPV of the investment is the flow of cash, both positive and negative, of the investment over the lifetime of the assets in real terms inclusive of the discount rate.

understanding what the financial impact is of the additional investments on their payback period or overall investment returns.

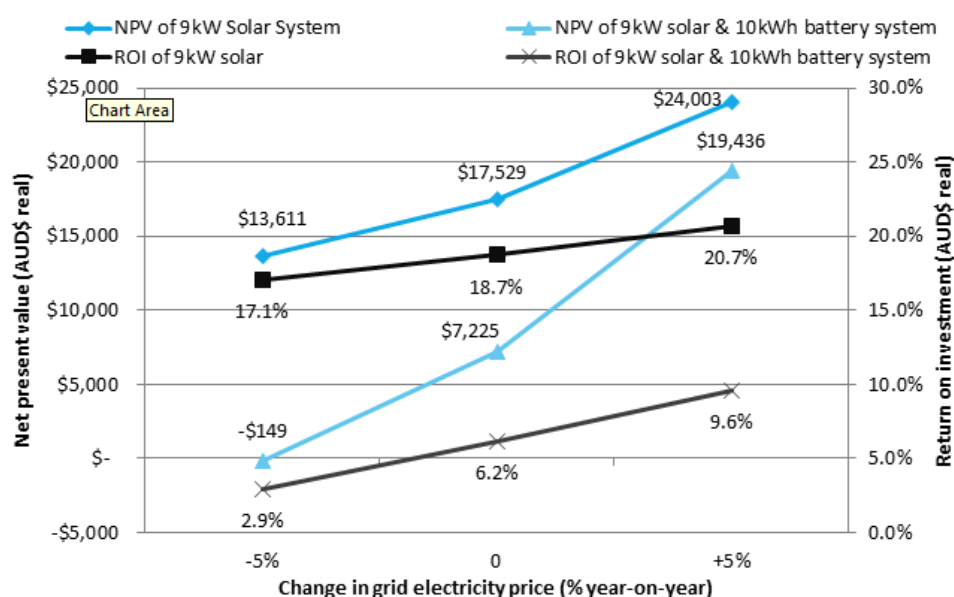
Price sensitivity of solar and battery investments

Forecasting the residential retailer-supplied electricity prices for the next 20 years is difficult to do with any degree of certainty, especially given the volatility in wholesale electricity prices that has occurred over the last few years.

Due to this, the modelling tested the sensitivity of solar and battery investments to price changes. The base case assumption was that prices would be consistent with the AEMC's 2017 *Residential Electricity Price Trends – Final Report* outlook to 2019/20 (in \$2017/18) and then be flat in real terms (i.e. zero per cent growth rate) for the remainder of the analysis period.³⁴⁷ The sensitivities modelled were a plus five per cent and a minus five per cent growth rate in grid tariffs.

The results in Figure 7.5 show that any investment in solar systems and/or battery systems is very sensitive to changes in grid electricity prices, and that any reduction in real grid prices will reduce the financial attractiveness of investments in solar PV and batteries. The converse is true if real grid electricity prices increase.

Figure 7.5 Sensitivity of solar PV &/or battery system investment to grid price changes



Source: AEMC modelling using ATA's Sunulator.

Understanding the relative merits of solar PV versus batteries in a combined system

The modelling results indicate that a solar system currently returns a significantly higher NPV and ROI than a combined solar and battery system. This is due to the battery's high capital cost in comparison to the savings it is generating for the

³⁴⁷ This is an assumption of a price reduction in real terms (that is, after inflation). It is considered a conservative assumption as higher grid prices increase the financial attractiveness of solar PV and battery investments.

consumer. In effect, even if the combined system represents a positive financial investment, the relative contribution to the benefit will be uneven; with a high return from the solar component reduced by a lower or negative return from the battery.

To provide some perspective on the relative contributions of the system components, a 'ready-reckoner' analysis was completed. The objective was to determine when a combined solar PV and battery system's NPV was equal to, or greater than, that of a solar system. Essentially, this exercise estimated the reduction in the cost of a battery that would be required to achieve financial results similar to those achievable with a solar PV system alone. In most cases a cost reduction in the order of 80 per cent would be required to achieve equivalent results.

Solar installation viability in zero consumption households

The costs and outputs of solar PV systems now achieve a levelised cost of electricity that is on average lower than the feed-in tariff that can be obtained from retailers. Therefore, the electricity produced from solar installations can be sold to the grid for a profit even if the household does not consume any electricity. This suggests owners of holiday homes or similar properties may find solar investments attractive solely based on the feed-in tariff they receive. The results presented in Table 7.2 are dependent on feed in tariffs remaining at or above current levels for the period of the analysis.³⁴⁸

Table 7.2 Results of zero consumption level solar PV installation

Zero consumption level				
Annual bill without investment on flat tariff (year one): \$333				
Tariff Type	Flat		Time-of-use	
Feed-in tariff	9 cents/kWh		11.3 cents per kWh	
System Size	3kW	6kW	3kW	6kW
Capital Cost of investment	\$3,870	\$6,320	3,870	\$6,320
Annual electricity cost (first year in horizon)*	-\$38	-\$409	-\$140	-\$605
Net Present Value	\$783	\$2,990	\$2,230	\$5,777
Discounted payback period	16	13	10	8
Return on Investment	5.2%	7.9%	8.8%	11.9%
Levelised cost of energy	7.7	6.4	7.7	6.4

*Note: no conditional discounting was applied.

As can be seen in the Commission's modelling results in Table 7.2, all four scenarios have a levelised cost of electricity that is less than the feed-in tariff available. Therefore, all four scenarios indicate the potential for profitable solar PV investments to be made.

³⁴⁸ IPART has proposed to reduce the feed-in tariff to around 7 c/kWh from 1 July 2018.

7.7 Customer satisfaction

Recent surveys by the ECA and Solar Citizens show customers are generally satisfied with their solar system performance and the impact it has on their retail bills.³⁴⁹ Between 2014 and 2016, 85 per cent of consumers were satisfied with the installation process and in 2016, 80 per cent of customers agreed that their system offered good value for money.³⁵⁰

The ECA's *Consumer Sentiment Survey* suggests that consumer satisfaction with the value for money from their retailers has decreased from an average of 45 per cent in April 2016 to 44 per cent in April 2018.³⁵¹ The *Consumer Sentiment Survey* also showed that consumers are losing their confidence in technological advances as a tool to manage energy supply and costs.³⁵² Further information on consumer on a range of issues affecting the consumer experience is provided in chapter 8.

7.8 Customer protection and dispute resolution

There are two main forms of consumer protection for energy products and services:

1. The NECF which:
 - establishes consumer protections and obligations for the sale of electricity and natural gas to consumers, with a particular focus on small customers
 - defines the rights, obligations and protections relating to the relationship between customers, energy retailers and energy distributors
 - complements and operates alongside the generic consumer protections in the Australian Competition Law (ACL), and state and territory safety and concession regimes.³⁵³
2. The ACL which prohibits misleading, deceptive and unconscionable conduct and offers protections for consumers in the areas of:
 - consumer rights when buying goods and services
 - product safety
 - unsolicited consumer agreements including direct marketing, unfair contract terms law, and consumer redress options amongst others.

³⁴⁹ UMR Strategic Research and Energy Consumers Australia, *Usage of solar electricity in the national energy market*, November 2016; Solar Citizens, *2016 Great Solar Census*, Solar Citizens, Sydney, 2018.

³⁵⁰ UMR Strategic Research and Energy Consumers Australia, *Usage of solar electricity in the national energy market*, November 2016, pp.31-33, available at: <http://energyconsumersaustralia.com.au/wp-content/uploads/UMR-Usage-of-solar-electricity-in-the-national-energy-market.pdf>

³⁵¹ Energy Consumer Sentiment Survey Wave 1-4, June 2016- November 2017, Conducted by Essential research for Energy Consumers Australia, Sydney, 2017

³⁵² *ibid.*

³⁵³ The NECF currently applies, with jurisdictional specific amendments, in Queensland, New South Wales, South Australia, Tasmania and the Australian Capital Territory. Victoria has not adopted the NECF.

Each of the above consumer protection mechanisms applies in different ways depending on the way in which the energy related product or service is provided. Consumers who invest in DER may not have the same protections as customers of traditional grid-supplied electricity. Table 7.3 below outlines the different protections that apply. As can be seen from the below table it may not always be clear to a customer what the correct channel is to resolve a particular complaint relating to solar and battery products. The CEC provides customers with guidelines on how to address disputes under different scenarios, and these may provide assistance to reduce some level of customer confusion.³⁵⁴

Table 7.3 Potential scenarios and consumer protection frameworks that apply

Matter	Example 1	Example 2	Example 3
Electricity supply	100 per cent grid-supplied energy from an authorised retailer	Customer buys solar/battery from electricity retailer and sources any residual electricity from the same retailer	Customer buys solar/battery from third party(ies) and residual electricity from authorised retailer ³⁵⁵
Applicable consumer protections	<ul style="list-style-type: none"> • NECF • ACL 	<ul style="list-style-type: none"> • NECF • ACL 	<ul style="list-style-type: none"> • NECF but only for residual electricity sourced from an authorised retailer³⁵⁶ • ACL
What happens if something goes wrong with the solar/battery system? What if the Solar/battery manufacturer goes out of business?	Not applicable	Customer is able to contact their retailer to resolve the fault even if manufacturer has gone out of business	Customer must contact the original supplier to resolve the fault. If solar/ battery components are sourced from different suppliers, they must determine which component is at fault, then contact that supplier If the manufacturer has gone out of business, the customer must seek resolution elsewhere, possibly the importer

³⁵⁴ Clean Energy Council, *Guide to installing solar for households*, Clean Energy Council, Melbourne, 2014.

³⁵⁵ The sale of electricity to consumers is prohibited unless the seller holds a current retailer authorisation. There are some provisions which allow the seller to be exempt from the requirement to hold a retailer authorisation. An exemption may be granted if the seller is providing a supplementary or add-on service to consumers who are purchasing energy from an authorised retailer or the energy provided by the seller is part of a bundled service and forms an insignificant part of that contract.

³⁵⁶ Where energy is supplied by an exempt seller the ACL applies in addition to any conditions placed on the exempt seller under the NECF through their exempt seller authorisation.

Matter	Example 1	Example 2	Example 3
Dispute resolution options regarding solar/battery system issues	Not applicable	<ol style="list-style-type: none"> 1. Customer makes a complaint to its authorised retailer (who must be part of an Ombudsman scheme under the NECF) 2. Can escalate to the jurisdictional Ombudsman, state-based fair trading agency or the ACCC 	Customer must raise any issues with its state-based fair trading agency or the ACCC. Both can assist customers with the mediation of commercial matters, such as warranties, payments and contract issues

It is recognised that in some competitive markets, competition alone may not provide adequate protection for customers or ensure that they are able to make effective choices.³⁵⁷ Consumer protections for an essential service like electricity that is newly opened to competition, are required to provide customers with information about risks and their rights in a new and unfamiliar context.³⁵⁸ For energy, legislative and regulatory frameworks exist to provide traditional retailers with incentives to promote the interests of consumers, whilst ensuring that sufficient safeguards exist, in the form of minimum product and service standards, to protect consumers.

The NECF was originally developed with the view that all consumers would be supplied through the interconnected electricity system, supported by a retail contract. Many products and services, such as solar and battery systems, are now provided by different entities and the roles of these entities is becoming less defined.

The evolving nature of the market provides an opportunity to consider whether or not the existing energy specific consumer protection framework continues to meet its objective. Given this, it is necessary to consider such matters as whether electricity is still an essential services (if so, is the source of supply relevant), are consumer protections still required and is the ACL sufficient where the NECF may not apply.

In 2016, the COAG Energy Council released a discussion paper on consumer protections behind the meter.³⁵⁹ Following this, the COAG Energy Council Ministers agreed to write to industry groups asking them to develop a Code of Conduct for new energy products and services. The industry and ECA are currently developing this code. Taking into account this work, the AEMC will assess whether any changes to the NECF are also required to protect consumers receiving services from new energy service providers.

³⁵⁷ Decker, C., *Regulatory implications of new products and service in Australian electricity markets*, Regulatory Economics, 17 July 2015, p.8.

³⁵⁸ *ibid*, p.1.

³⁵⁹ Behind the meter is a term used to define any product or service of a consumer which occurs on the opposite side of their residential meter to the regulated networks where the NERL applies.

8 Outcomes for residential consumers

Summary of key findings

- Satisfaction of small and medium businesses with energy market outcomes decreased in the last year, driven by increases in electricity prices. A number of satisfaction measures are at the lowest levels since surveys commenced in 2014.
- The Small Business survey showed that in February 2018 (compared to January 2017) satisfaction:
 - in customer choice with energy companies and plans was 53 per cent (a decrease of eight per cent), with jurisdictions with more retailers having higher satisfaction.
 - with current electricity providers was 53 per cent (a decrease of 17), while this has been decreasing since 2016, it is now at the lowest level since 2014
 - with gas retailers has remained relatively steady over the past five years between 64 and 72 per cent
 - with the level of customer service from electricity retailers was 57 per cent (a decline of eight per cent)
 - with value for money for electricity has remained relatively steady since 2016 between 57 and 47 per cent, but decreased slightly by four per cent in the last year
 - with the value for money for gas was 61 per cent which was an increase of 18 per cent since 2016.
- For the first time since surveys commenced, consumers rated the value for money from Big 3 retailers above Tier 2 retailers. Tier 2 retailers experienced a decrease in satisfaction in their value for money rating of 13 per cent. It may reflect Tier 2 retailers have been more adversely affected by increases in wholesale costs.
- Disconnections of business customers decreased across the NEM by 28 per cent for electricity, and 16 per cent for gas.

Recommendation: The AEMC to assess how retailers support customers in financial difficulty, unless advised otherwise by the COAG Energy Council by January 2019.

There is work underway to strengthen the protections for residential customers who are facing financial difficulty due to hardship. These include the ESC's new payment difficulty framework and the rule change request being considered by the AEMC to allow the AER to introduce binding hardship guidelines.

While these projects may improve protections for hardship customers, they must be considered in the broader context of consumer protections, noting that affordability is a broader social policy concern that is broader than the scope of the energy markets.

The review would look at the support options retailers provide commercially, and how these operate with required hardship provisions. The review would benchmark and identify best practices.

The preceding analysis in this report has examined the structure of the electricity and gas markets, and how this affects the conduct of retailers and consumers. This chapter focuses on performance, specifically on what outcomes residential consumers are achieving. It examines residential consumers' perceptions and observable data on the following:

- consumer satisfaction as measured by consumer surveys
- observable data on:
 - the level of consumer complaints to retailers and Ombudsmen
 - disconnections
 - customers in hardship.

As noted earlier, in assessing competition, these measures need to be looked at in combination with other metrics, along with any trends over time.

In the previous three years, energy prices have remained relatively stable with minor increases and decreases. However, since 1 July 2017 (and 1 January 2018 in Victoria), many jurisdictions have experienced significant increases in prices and consumer bills. These increases were driven by higher wholesale costs from increasing gas prices and the closure of Hazelwood.

The observable data on complaints, disconnections and hardship was generally only available for the 2016/17 period, before the significant price increases of 2017.

Therefore, data from 2016/17, while useful in establishing a trend, may not reflect the impact that large price rises have had on consumers. Where possible, the Commission used data from the first half of 2017/18 to provide updated commentary.

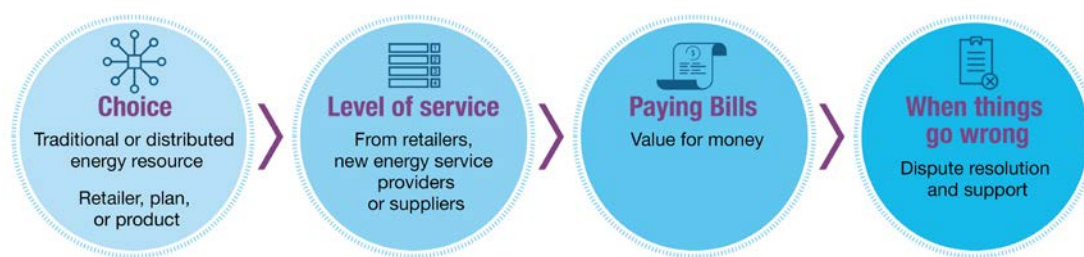
Performance outcomes for small business customers are examined further in chapter 9 and the outcomes for retailers are discussed in chapter 10.

8.1 Customer experience

As discussed earlier, in a well-functioning competitive market, customers who engage can drive better outcomes for themselves and the market overall by influencing the design of products and level of service provided. The elements shown in Figure 8.1 that have been adopted as a framework to assess a customer's experience in a market relate to:

- their level of choice (section 8.2.1)
- the quality of customer service (section 8.2.2)
- pricing and billing outcomes (section 8.2.3)
- dispute resolution options and support available if things go wrong (section 8.3 and 8.4).

Figure 8.1 Customer experience map



8.2 Residential consumer satisfaction

A feature of effectively competitive markets is that the majority of consumers are generally satisfied with the different aspects of the market. This section examines consumer satisfaction, as expressed in their perceptions of:

- the level of competition
- customer service
- perceived value for money of products or services.

As discussed in chapter 5, this year the Commission has based its analysis on the results and trends from the ECA's biannual *Energy Consumer Sentiment Survey*, which asks consumers about their views on a range of matters in the electricity and gas markets.³⁶⁰ The survey was conducted in April of 2016, 2017 and 2018 as well as September 2016 and 2017. The September 2017 survey was after the significant electricity price increases experienced by residential customers across most jurisdictions in the NEM. As such it has captured the changes in sentiment due to the price increases. As noted in Chapter 5, the September waves of the survey generally have more pessimistic responses whereas the April waves have more optimistic results from respondents. As such, the waves have been compared on a year-to-year basis.

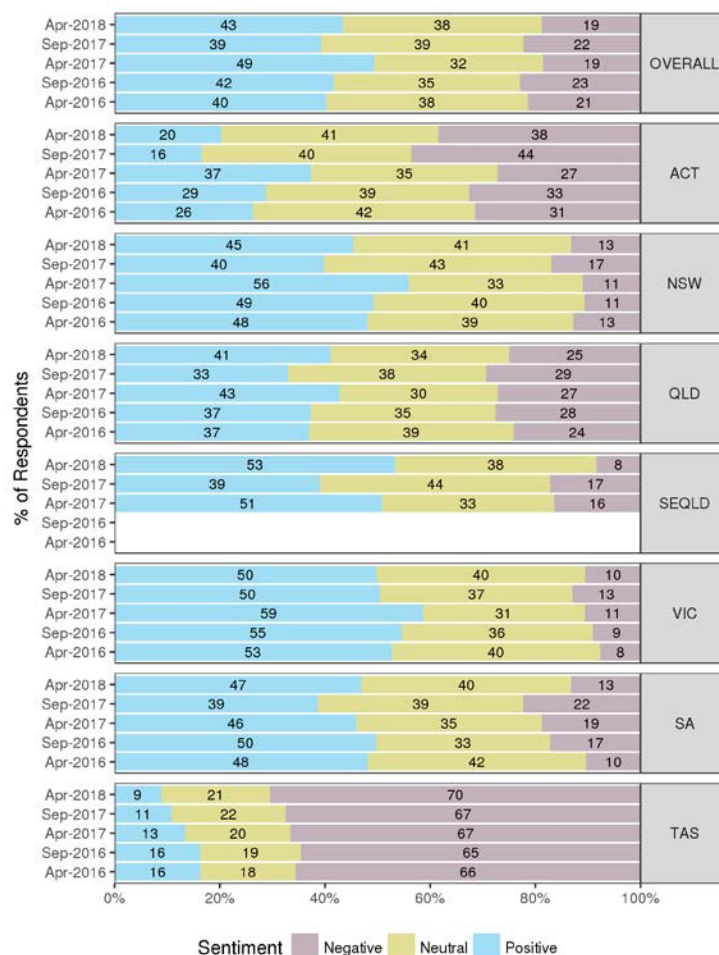
³⁶⁰ From 2014-2017 Newgate Research completed the small customer survey used by the AEMC. Newgate's reports from previous years can be found with the reports at the AEMC website.

8.2.1 Consumer satisfaction with level of competition

As shown in Figure 8.2 below, overall satisfaction with the level of competition reduced from April 2017 to April 2018.³⁶¹ However, there were slight improvements in South East Queensland and South Australia of two and one per cent respectively.

Consumer responses of 'satisfied' and 'very satisfied' was at or below 50 per cent for all jurisdictions, except South East Queensland which had 53 per cent positive satisfaction. This result in South East Queensland could be linked to the four new electricity retailers that entered the market in the past year. The overall average was 43 per cent in April 2018, which represents a small improvement the September 2017 results for all jurisdictions, other than Tasmania, noting the seasonal differences between waves. The September 2017 survey marked a reversal of the broad trend from previous surveys which saw increasing satisfaction in all jurisdictions, except South Australia and Tasmania.

Figure 8.2 Satisfaction with the level of competition in the energy market



Source: ECA, AEMC analysis. Question O1 (B) of the questionnaire. Note: The Queensland data set consists of South East Queensland and regional Queensland. South East Queensland was only recorded separately from the Queensland data set in April 2017 (wave 3). Regional Queensland data set was statistically too small for reporting. The biannual survey captures seasonal differences, so results should be compared year on year.

³⁶¹ AEMC analysis of the *Energy Consumer Sentiment Survey Wave 1-4*, June 2016- November 2017,

There is a correlation between the number of active retailers in a jurisdiction and the level of satisfaction. Victoria and New South Wales have the highest number of active gas and electricity retailers, and these states have the highest levels of satisfaction in the ECA Survey. Tasmania has the lowest satisfaction rating, and has one electricity retailer and two gas retailers servicing residential consumers.

There also appears to be a correlation between a positive view of the level of competition and price deregulation. The jurisdictions that have deregulated prices, such as Victoria and New South Wales, tend to have a higher satisfaction with the level of competition; as expected Tasmania and the Australian Capital Territory have not yet had price deregulation and have the lowest positive satisfaction.

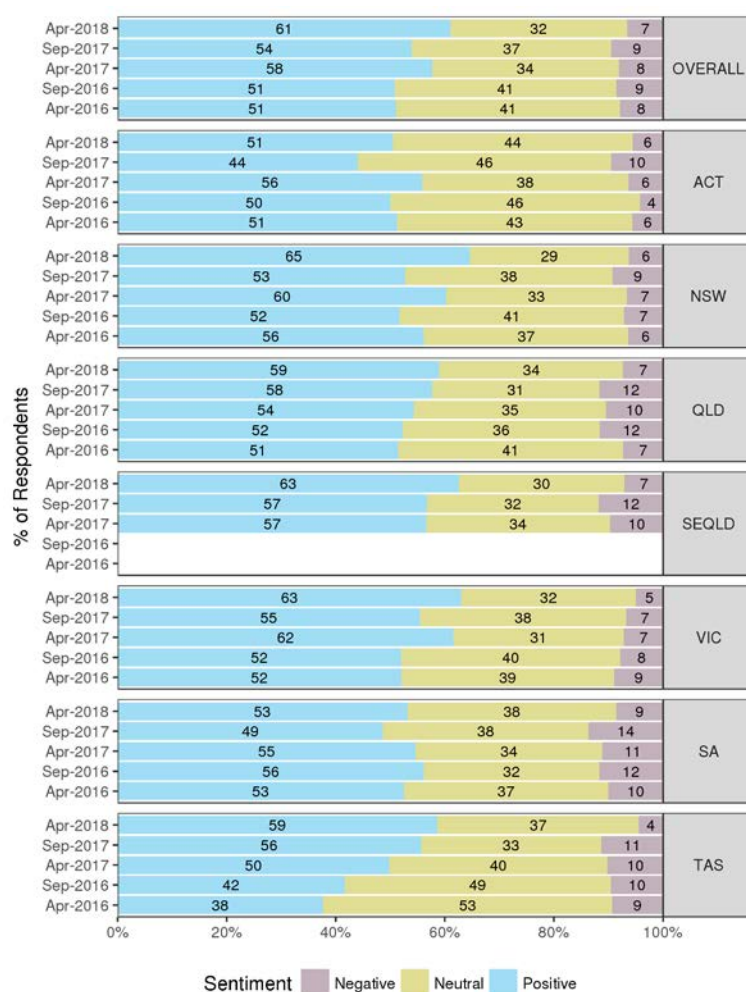
8.2.2 Consumer satisfaction with level of customer service

In relation to the service element of the customer experience map in Figure 8.1, the ECA Survey asks consumers about their satisfaction with the service they receive from their electricity and gas retailers.

Electricity

As shown in Figure 8.3 below, between April 2017 and April 2018, satisfaction with the customer service provided by electricity retailers increased slightly on average in the NEM from 58 per cent to 61 per cent, as shown in Figure 8.3.

Figure 8.3 Satisfaction with level of customer service - electricity



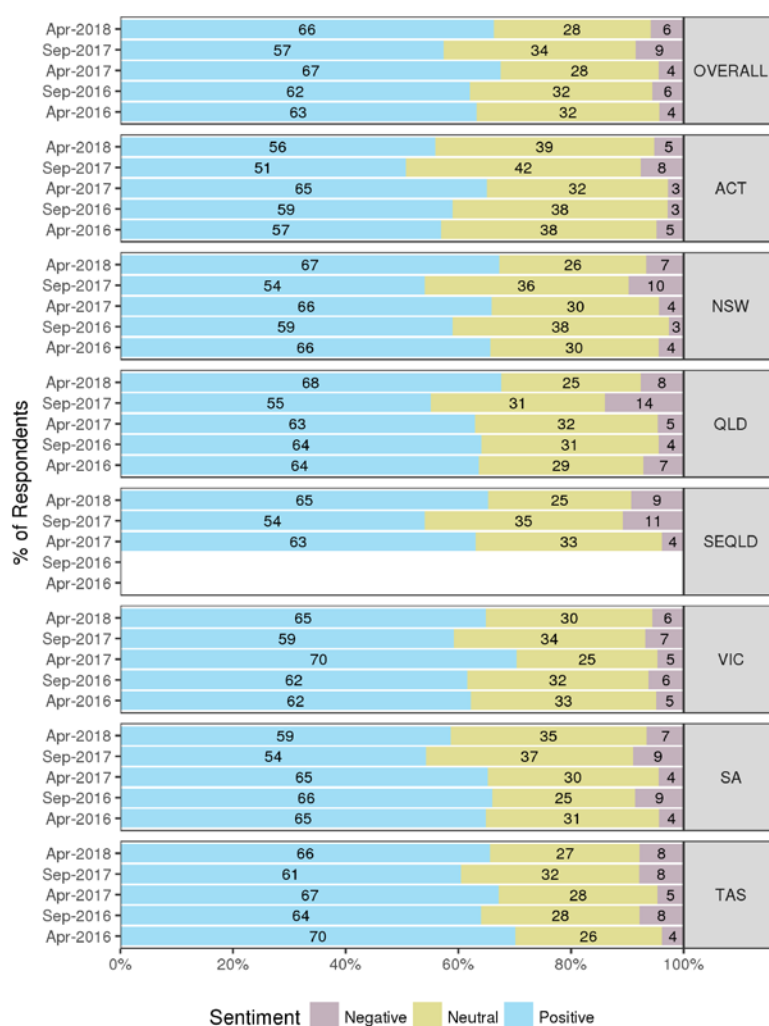
Source: ECA, AEMC analysis. Question E2 (A) of the questionnaire. Note: The Queensland data set consists of South East Queensland and regional Queensland. South East Queensland was only recorded separately from the Queensland data set in April 2017 (wave 3). Regional Queensland data set was statistically too small for reporting. The biannual survey captures seasonal differences, so results should be compared year on year.

The steady increase in satisfaction in Tasmania occurred despite the absence of retail competition for residential consumers. This increase brings Tasmanian consumer satisfaction in line with other competitive jurisdictions. Discussions during retailer interviews suggested this had been a particular focus by the Tasmanian retailer.

Gas

Satisfaction with the level of service from gas retailers is generally higher across jurisdictions in the NEM than that for electricity retailers, as shown in Figure 8.4 below. This is despite the smaller number of retailers in the residential gas market. However, satisfaction with customer service from gas retailers decreased slightly overall between from April 2017 and April 2018. There has also been a corresponding increase in a negative sentiment. This decrease in satisfaction followed a larger decrease in satisfaction and increase in dissatisfaction across most jurisdictions between September 2016 and September 2017. As discussed earlier, this may be due to the high media and political attention on the sector in that time period, given the more modest price increase, if at all, for consumers in that period.

Figure 8.4 Satisfaction with customer service - gas



Source: ECA, AEMC analysis. Question G3 (A) of the questionnaire. Note: The Queensland data set consists of South East Queensland and regional Queensland. South East Queensland was only recorded separately from the Queensland data set in April 2017 (wave 3). Regional Queensland data set was statistically too small for reporting. The biannual survey captures seasonal differences, so results should be compared year on year.

8.2.3 Consumer satisfaction with value for money

In relation to the price element of the customer experience map in Figure 8.1, the ECA Survey asks consumers about their satisfaction with value for money for both gas and electricity.

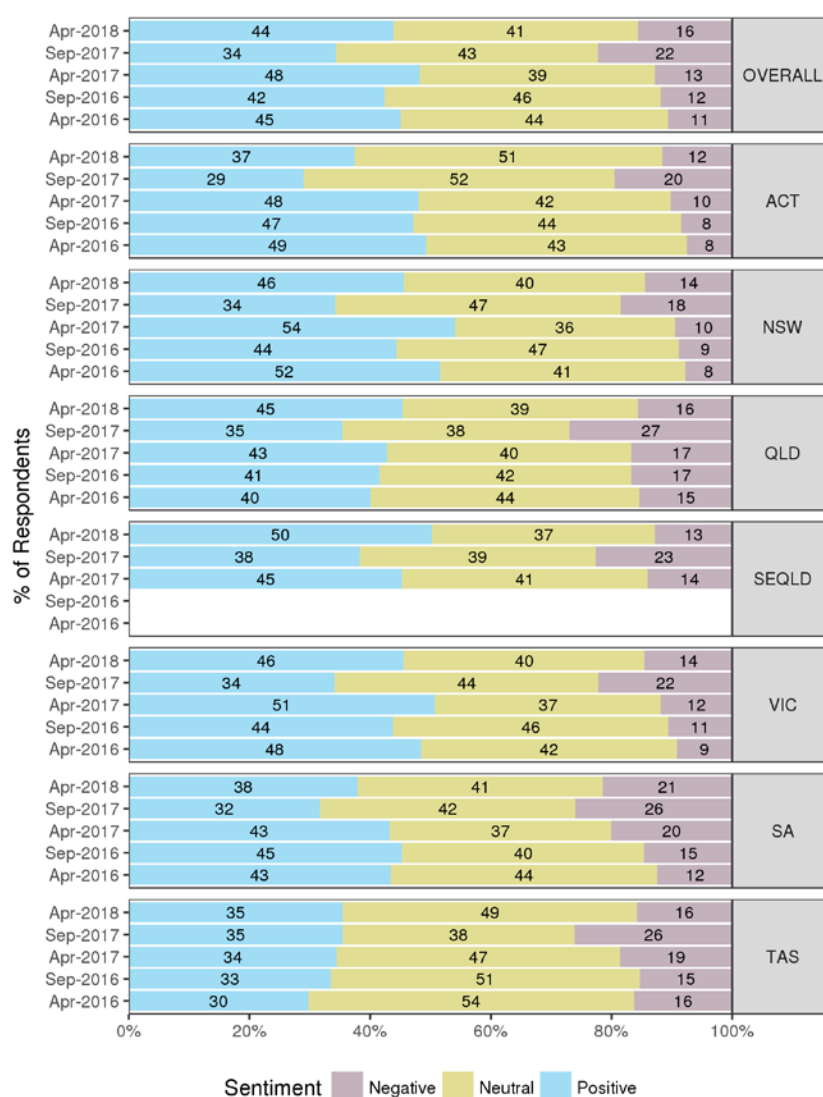
Electricity

As shown in Figure 8.5 below, the satisfaction ratings for the value for money of electricity have decreased overall between April 2017 and April 2018. As of April 2018, only 44 per cent of customers in the NEM were satisfied with value for money. However there were some improvements in Tasmania, Queensland and South East Queensland.

This reduction in satisfaction for value for money was preceded by a larger reduction between September 2016 and September 2017, across all jurisdictions except Tasmania.

The reduction in satisfaction with value for money correlates with recent price increases and more focus on affordability issues in the sector.³⁶² Figure 8.5 below indicates that in September 2017 at least a quarter of all customers in Queensland, South Australia and Tasmania believe their electricity's value for money is 'poor' to 'very poor'. Tasmania saw an increase in satisfaction, which is likely due to Tasmania only having a slight two per cent increase in electricity prices.³⁶³

Figure 8.5 Satisfaction with value for money - electricity



Source: ECA, AEMC analysis. Question E1 of the questionnaire. Note: The Queensland data set consists of South East Queensland and regional Queensland. South East Queensland was only recorded separately from the Queensland data set in April 2017 (wave 3). Regional Queensland data set was statistically too small for reporting. The biannual survey captures seasonal differences, so results should be compared year on year.

³⁶² See chapter 4 for further detail on price increases.

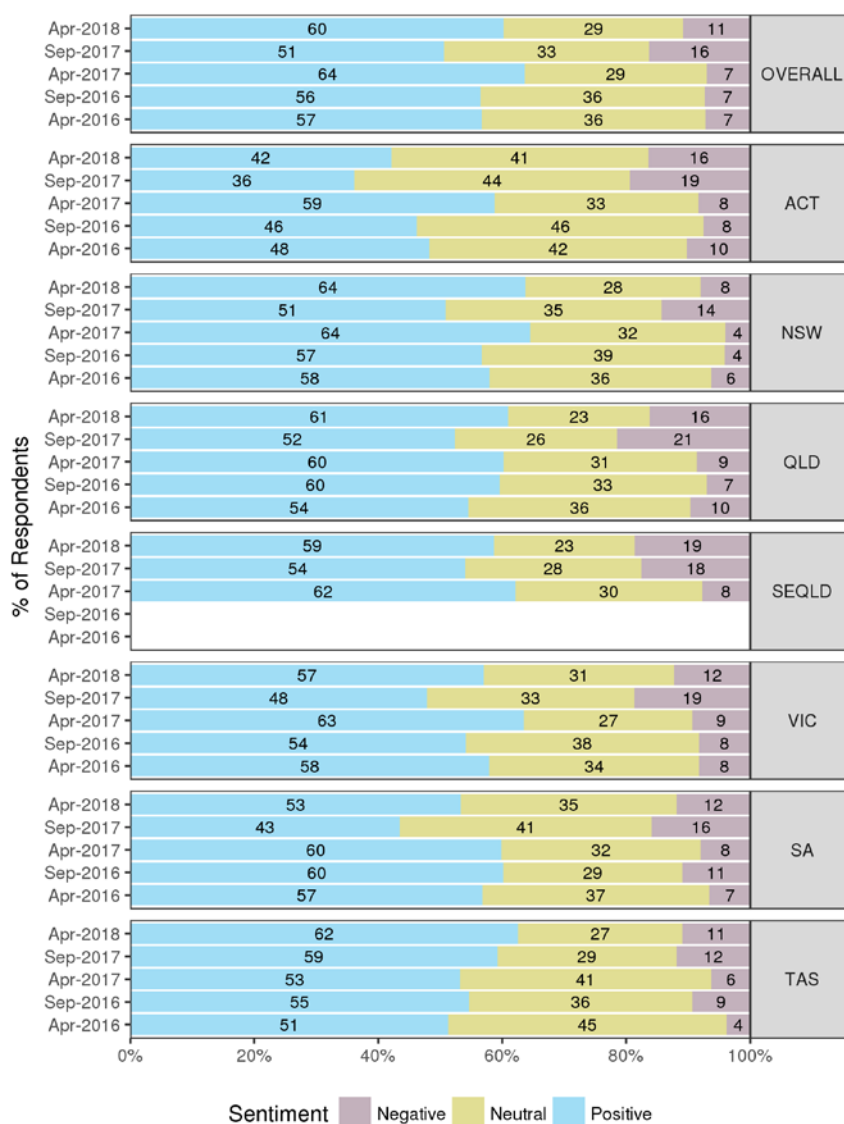
³⁶³ Australian Energy Market Commission, 2017 *Residential Electricity Price Trends – Final Report*, 18 December 2017, Sydney, p. 143.

Gas

Across jurisdictions, customer satisfaction with value of money for gas at April 2018 was 60 per cent, which is 16 per cent higher than electricity. However, as Figure 8.6 shows, positive sentiment for the value for money of gas decreased by four per cent on average across the all jurisdictions between April 2017 and April 2018, with decreases in each region besides Tasmania, Queensland and New South Wales.

Tasmania and Queensland were the only jurisdictions to see an increase in customer perception of value for money. Satisfaction in Tasmania rose to 62 per cent as at April 2018, which is higher than the average rating for all jurisdictions. New South Wales saw positive satisfaction with gas remain the same, but a decrease in negative satisfaction for value for money.

Figure 8.6 Satisfaction with value for money- gas



Source: ECA, AEMC analysis. Question G2 of the questionnaire. Note: The Queensland data set consists of South East Queensland and regional Queensland. South East Queensland was only recorded separately from the Queensland data set in April 2017 (wave 3). Regional Queensland data set was statistically too small for reporting. The biannual survey captures seasonal differences, so results should be compared year on year.

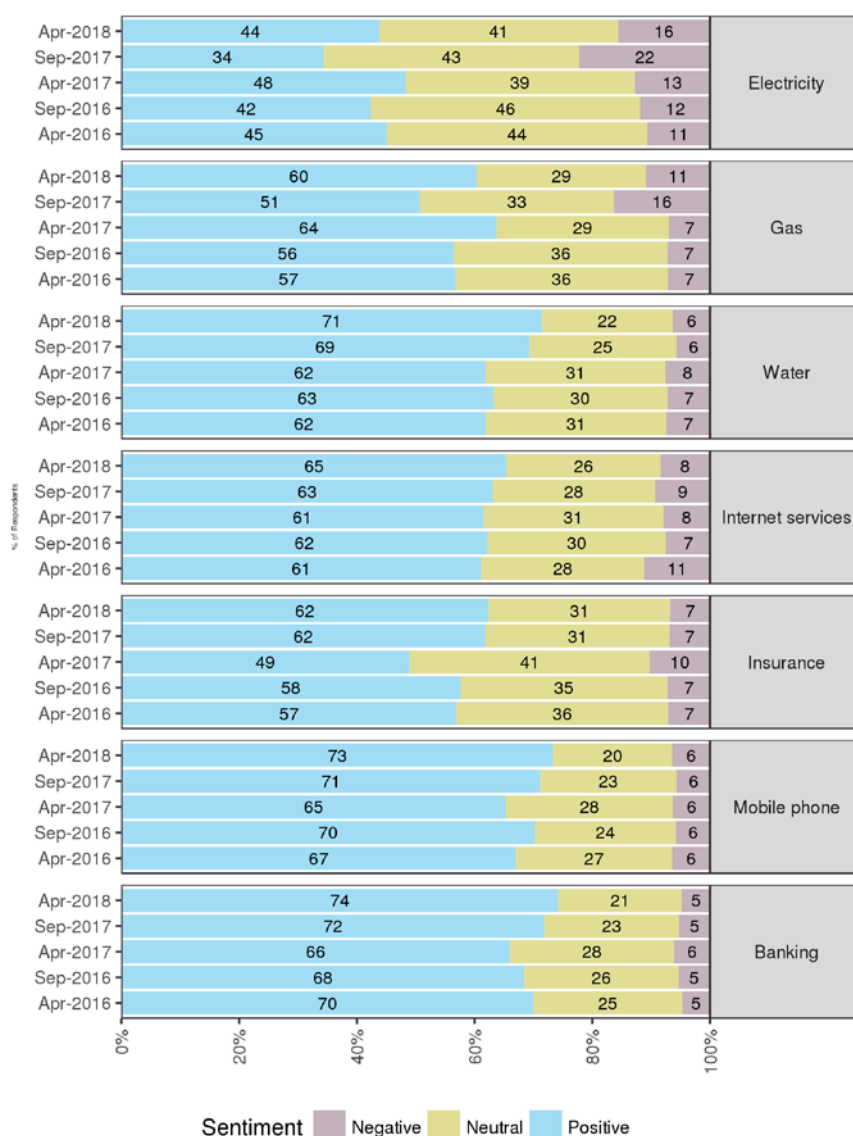
There is no clear correlation between customer satisfaction of the perceived value for money of gas and gas prices. Satisfaction decreased in New South Wales, the Australia Capital Territory and South Australia over the first four survey periods. These jurisdictions have also experienced varying price decreases from 2015 to 2017.³⁶⁴ Satisfaction in that period also decreased in Queensland and Victoria, however, in these two jurisdictions, the residential gas price has increased. In Tasmania, customer satisfaction increased despite an increase in gas prices. This suggests other factors, such as increased media and political attention, appear to be affecting consumer perceptions of the value for money of gas.

Other sectors

In order to compare how customers perceive value for money in energy with other utilities, the ECA Survey asks residential customers about their satisfaction with insurance, internet, mobile phones, banking and water. The below observations look at the positive and negative responses as a way to determine satisfaction or dissatisfaction with value for money.

³⁶⁴ Oakley Greenwood, *Gas Price Trends Report 2017*, December 2017, viewed 10 May 2018, <http://oakleygreenwood.com.au/gas-price-trends-review-2017>.

Figure 8.7 **Satisfaction with value for money- cross-sector comparison**



Source: ECA, AEMC analysis. Question E1, G2 & O2 of the questionnaire.

As shown in Figure 8.7 above, consumer satisfaction with value for money across sectors shows that:

- consumers are consistently least satisfied with the electricity sector, as it has the lowest positive sentiment and the highest negative sentiment
- the energy sector was the only sector to experience a decrease in positive sentiment and increase in negative sentiment between September 2016 and September 2017, and between April 2017 and April 2018
- banking, as at April 2018, held the highest positive satisfaction rating; followed by mobile phones, water, internet services and insurance.

While not a measure of trust, the difference between the electricity and banking sectors satisfaction ratings is notable given the high levels of political attention and media scrutiny both sectors have received over the past year. Based on consumers surveyed,

positive sentiment about value for money in the banking sector, as at April 2018, was 30 per cent higher than the electricity sector.

8.3 Customer complaints

There is a hierarchy of resolution mechanisms available to customers when they have an issue with matters such as billing, wrongful disconnections, credit arrangements, poor customer service and marketing practices:

1. consumers make their complaint directly to their retailer for resolution
2. if this does not produce a suitable outcome, then depending on the nature of the complaint, consumers can take a matter to their jurisdictional energy ombudsman, state-based fair trading agency or the ACCC.

The following analysis is based on customer complaints made to electricity retailers and complaints made by the ombudsmen in relation to gas and electricity for the 2016/17 financial year, and compared to our findings to previous years.

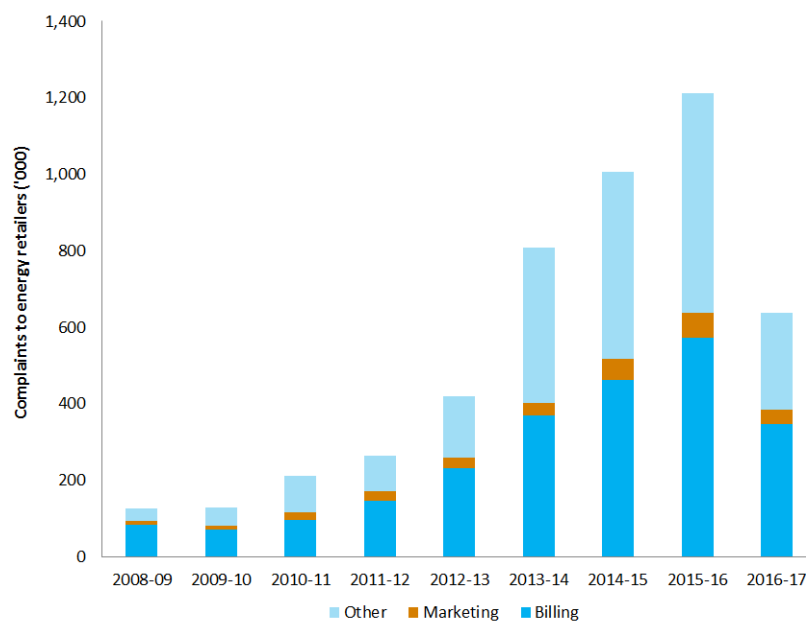
8.3.1 Complaints to retailers

Across the NEM (with the exception of Tasmania) the total number of complaints made directly to retailers (electricity and gas) decreased by about 27 per cent over the last financial year. This is shown in Figure 8.8 below and is a reversal of the trend in which the total number of complaints increased each year since 2008/09. Tasmania was the only jurisdiction in 2016/17 to see an increase in complaints made directly to retailers. The number of complaints increased from 8,023 to 10,138, which is a 26 per cent rise.

While the overall number of complaints indicates consumer satisfaction levels, various issues that contribute to satisfaction are not directly controlled by retailers. The AER notes that “[t]he nature of some complaints can be outside the control of the energy retailers and may relate to fixed wholesale and network costs that are passed on to the customer”.³⁶⁵

³⁶⁵ Australian Energy Regulator, *Annual Report on Compliance and Performance of the Retail Energy Market 2016–17*, AER, p. 23, Melbourne, 2017.

Figure 8.8 Residential complaints to retailers



Source: AER, ESC; AEMC analysis. Note: includes both electricity and gas.

As with previous years, the two biggest categories of complaints to energy retailers are 'billing' and 'other'. Marketing complaints decreased by about 30 per cent in 2016/17 and these complaints remain at a relatively low percentage of overall complaints at about six per cent.

The AER and the ESC both note that retailer complaint figures nationally were significantly influenced by large decreases in complaints reported by Origin Energy.³⁶⁶ Origin Energy advised the AER and ESC that at the end of 2015/16 it had modified its complaint recording methods to correct the over-capture of complaints that had seen a significant increase in numbers in 2015/16.³⁶⁷ The result of this is the significant decrease in its complaint numbers for 2016/17. The AER also reported that significant decreases in complaints made to AGL impacted the national downward trend.³⁶⁸

As noted earlier these figures do not reflect any changes in complaint levels following the price increased in mid-2017. In data released by the AER for the second quarter of 2017/18, residential complaint rates increased from the previous quarter in all jurisdictions.³⁶⁹

³⁶⁶ Australian Energy Regulator, *Annual Report on Compliance and Performance of the Retail Energy Market 2016-17*, AER, Melbourne, 2017, and Victorian Essential Services Commission, *Victorian Energy Market Report 2016-2017*, Victorian ESC, Melbourne, 2017.

³⁶⁷ *ibid.*

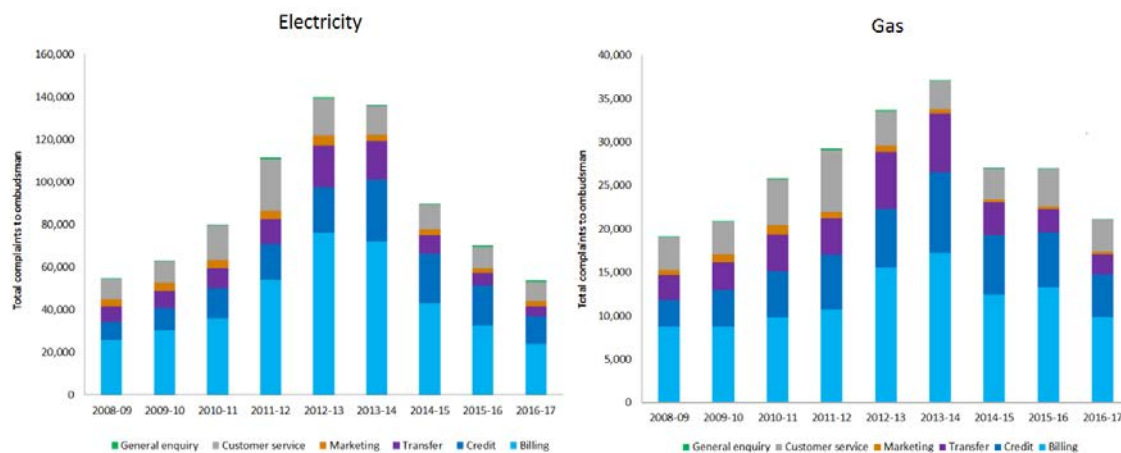
³⁶⁸ *ibid.*

³⁶⁹ Australian Energy Regulator, *Retail energy market performance update for Quarter 2, 2017-18*, 23 March 2018, Melbourne, viewed 10 May 2018, www.aer.gov.au/retail-markets/performance-reporting/retail-energy-market-performance-update-for-quarter-2-2017-18.

8.3.2 Complaints to ombudsmen

As seen in Figure 8.9, overall, there has been a reduction in small customer (residential and business) complaints to Ombudsmen for both retail electricity and gas. Generally, all jurisdictions saw these reductions from 2015/16 to 2016/17, with the exceptions of Tasmania where electricity complaints increased by 29 per cent.³⁷⁰

Figure 8.9 Small customer complaints to ombudsman



Source: Jurisdictional ombudsman schemes, AEMC analysis Note: Data for the Australian Capital Territory was only collected from 2011/12, and South Australia was only collected from 2012/13. A single complaint can sit in more than one category. Applies to both residential and business consumers.

As with 2015/16, the four largest categories of complaints to ombudsmen are those related to billing, credit, customer service and transfers.³⁷¹ Complaints by category across the NEM also decreased with the exception of:

- general inquiries in the gas market, which increased by two per cent
- marketing and general inquiries for the electricity market, which increased by 7.9 per cent and 18.4 per cent respectively.³⁷²

The reduction in complaints to ombudsmen is likely to be due to a combination of:

- retailers being able to solve issues promptly without the need for escalation
- the work of ombudsmen to help providers to reduce and avoid complaints, which was noted by EWON³⁷³
- industry participants successfully resolving less complex customer complaints through their improved internal dispute processes. This was highlighted by the Energy and Water Ombudsman Queensland (EWOQ), Energy and Water Ombudsman Victoria (EWOV) and Energy and Water Ombudsman South

³⁷⁰ AEMC analysis of data from State ombudsmen schemes.

³⁷¹ Transfers (also referred to as switching) relates to such matters as accounts being transferred in error, accounts transferred without an account holder's consent, delays in transferring an account or transfers being rejected by a retailer.

³⁷² AEMC analysis of data from State ombudsmen schemes.

³⁷³ EWON, *Annual Report: 2016/2017*, EWON, Sydney, 2016, p. 12.

Australia (EWOSA) and allows ombudsmen to deal with more complex and systemic issues.³⁷⁴

The 2016/17 data does not capture the impact of the large price increases in the electricity sector. As discussed earlier, the decrease in satisfaction measures appear to be correlated with the increase in prices. Recent reports by some state ombudsmen schemes have noted that there has been an increase in electricity and gas complaints in the first quarter of 2017/18 compared to the number of complaints in previous quarters.³⁷⁵ This increase mainly concerns billing, in particular high bills. As noted by EWON "[g]iven the continued political, media and regulatory spotlight on energy and retail pricing and affordability, this is, perhaps, not surprising".³⁷⁶

8.4 Consumers in hardship and concessions

This section of the report reviews the outcomes for consumers between 2015/16 and 2016/17 who may be in hardship³⁷⁷, and retailer performance in providing assistance to these customers.

As noted earlier, the observable data in this section is for 2016/17, and does not reflect any changes to numbers since the price increases in July 2017.

8.4.1 Consumers facing financial difficulty

Affordability relates to a consumer's capacity to pay their electricity bills and is dependent on the amount of energy used, prices paid, income and other costs of living.³⁷⁸

Since 2007, there have been large increases in electricity prices that have not been matched by wage growth or price increases in other areas of the economy.³⁷⁹ In January 2018, Choice reported that 83 per cent of those surveyed for its *Consumer Pulse* quarterly survey stated that electricity is the household cost that is of most concern.³⁸⁰ Also, as noted by the Public Interest Advocacy Centre (PIAC) the result of the 2017 bill increases has meant more consumers who have not previously identified as hardship customers may be experiencing payment difficulties for the first time.³⁸¹

³⁷⁴ EWOQ, *Annual Report 2016–2017*, EWOQ, Brisbane, 2016, p. 5, EWOV, *2017 Annual Report*, EWOV, Melbourne, 2016, p. 6, and EWOSA, *2016-17 Annual Report*, EWOSA, Adelaide, 2016, p. 7.

³⁷⁵ EWON, *EWON complains report 1 October 2017 to 31 December 2017*, EWON, Sydney p. 5, EWOV, *Res Online - 1 October 2017 to 31 December 2017*, EWON, Melbourne p. 4.

³⁷⁶ EWON, *EWON complains report 1 October 2017 to 31 December 2017*, EWON, Sydney p. 2.

³⁷⁷ Under the NERL a hardship customer is defined as a residential customer who is identified as a customer experiencing financial payment difficulties due to hardship in accordance with the retailer's customer hardship policy.

³⁷⁸ ESB, *The Health of the National Electricity Market – 2017 Annual Report*, ESB Sydney, p. 19.

³⁷⁹ *ibid*, p. 18.

³⁸⁰ Choice, *Consumer Pulse: Australian's attitude to cost of living in 2014-17*, August 2017, p. 3.

³⁸¹ Public Interest Advocacy Centre, *Overpriced and underwhelming: a retail market that has failed consumers*, 5 July 2009, PIAC, Sydney, p. 5.

The ACCC found that in 2016 in most NEM areas, “the proportion of household disposable income spent on electricity was around five times greater for the lowest income quintile as it was for the highest income quintile”.³⁸² Given the recent large increases in prices from 1 July 2017, and the fact that increases have been particularly difficult for low income households, the Energy Security Board (ESB) stated that the requirement for efficient prices and affordability is critical.³⁸³

In order to support residential customers who are facing financial difficulty, the NERL and NERR, and the Victorian Retail Energy Code, require that retailers have a hardship policy which must include an appropriate payment plan. The payment plan must take into account:

- a customer’s capacity to pay
- any arrears owing by the customer
- the expected energy consumption needs of the customer.

Despite this requirement, there has been an increasing trend in the number of customers not being able to pay their bills, being disconnected and being excluded from hardship programs.³⁸⁴ The following sections look at observable data on trends in hardship and disconnections since 2013/14 to assess the outcomes for consumers facing financial difficulties.

Notably, retailers offer payment plans to customers who are having difficulty paying their bills, whether they are hardship customers or not. In the past year, all jurisdictions except Victoria have seen an increase in the number of customers (both hardship and non-hardship) on payment plans. The AER suggests retailers are placing customers on payment plans in preference to hardship programs.³⁸⁵ Conversely, as noted in chapter 3, some retailers commented that the increase in hardship numbers may reflect retailers being more active in including customers on programs. Given there are increases in customers on payment plans and in hardship programs it is clear that energy has become less affordable in the past year.

8.4.2 Hardship program performance

The key metrics for assessing whether hardship programs are providing support for customers facing financial difficulty are the:

- number of customers on hardship
- level of debt of hardship customers
- number of customer successfully exiting programs.

³⁸² Australian Competition & Consumer Commission, *Retail Electricity Pricing Inquiry*, preliminary report, 22 September 2017, ACCC, Canberra, p14.

³⁸³ Energy Security Board, *The Health of the National Electricity Market – 2017 Annual Report*, Energy Security Board, Sydney, p. 19.

³⁸⁴ *ibid*, p. 40.

³⁸⁵ AER, *Annual Report on Compliance & the Performance of the Retail Energy Market 2016–17*, AER, Melbourne, 2016, p. 33.

While these indicators do provide an indication of the performance of retailers in ensuring customers in financial difficulty receive adequate support, they do not directly relate to the effectiveness of retail competition. Effective competition can deliver efficient prices, but even these may be unaffordable to some consumers given their personal circumstances.

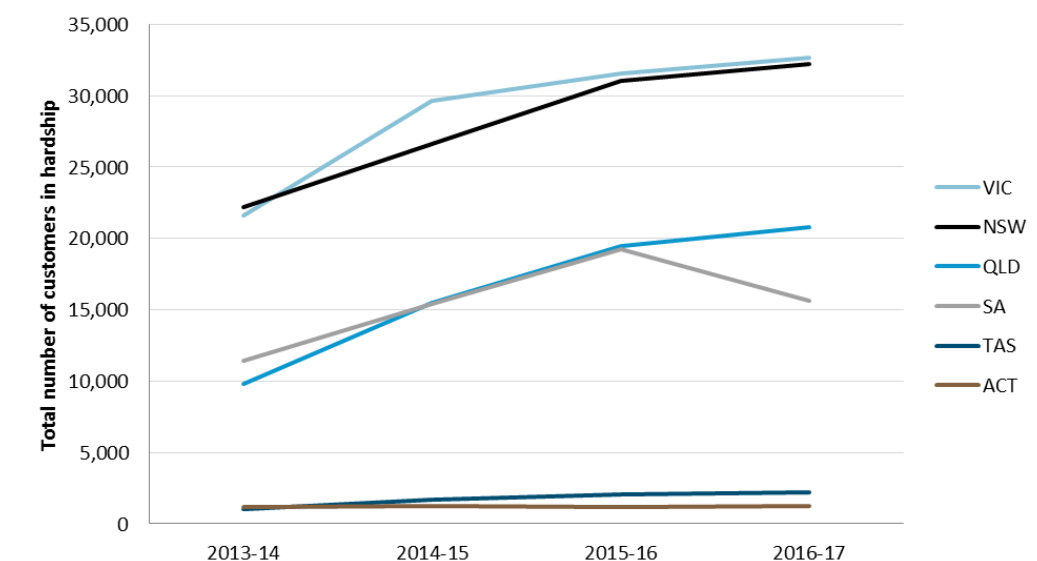
Number of customers on hardship

The AER reports that the number of electricity customers on hardship remains low, even though numbers have generally increased from 2015/16. The total number customers on hardship programs:

- increased for electricity by two per cent from 58,688 in 2015/16 to 59,654 in 2016/17
- decreased for gas by 13 per cent from 14,354 in 2015/16 to 12,421 in 2016/17.³⁸⁶

Most jurisdictions under the NECF have less than one per cent of customers on a hardship program.³⁸⁷

Figure 8.10 Number of customers on hardship programs (electricity and gas)



Source: AER and ESC, AEMC analysis.

As shown in Figure 8.10 above, all jurisdictions except South Australia had an increase in customers on hardship programs. The number of customers on hardship programs (electricity and gas) as at 30 June 2017, compared to 30 June 2016:

- increased in Queensland from 19,481 to 20,766 (a seven per cent increase)
- increased in the Australian Capital Territory from 1,202 to 1,211 (a one per cent increase)

³⁸⁶ Note these figures do not include Victoria, where the customer numbers for hardship are not reported separately for electricity and gas.

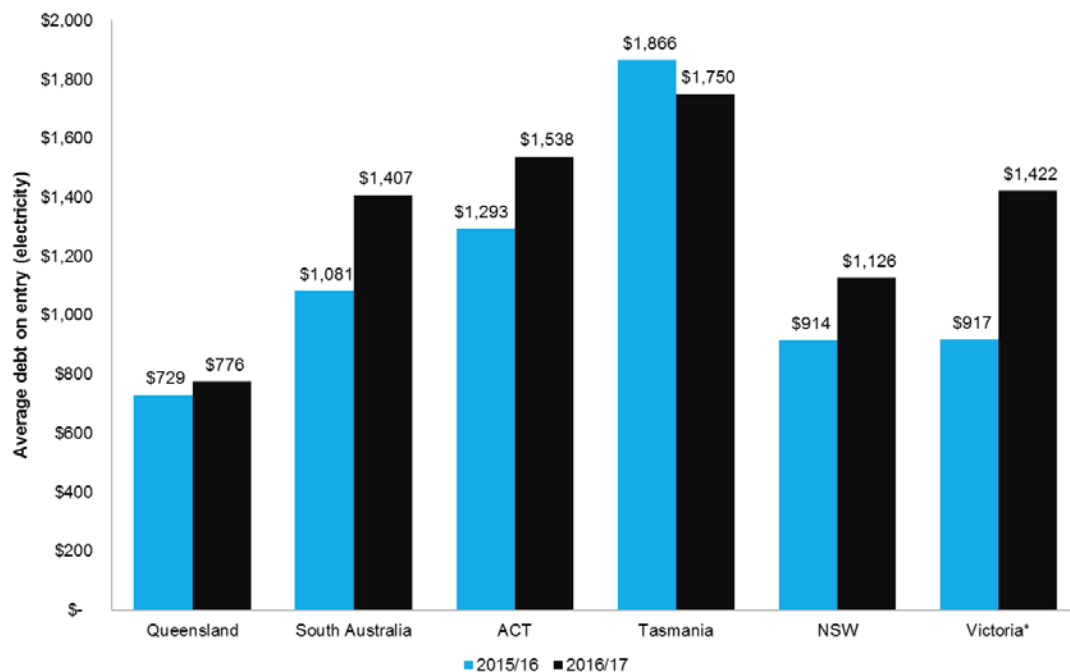
³⁸⁷ AER, *Annual Report on Compliance & the Performance of the Retail Energy Market 2016–17*, AER, Melbourne, 2016, p. 33.

- increased in New South Wales from 31,020 to 32,231 (a four per cent increase)
- increased in Tasmania from 2,065 to 2,208 (a seven per cent increase)
- increased in Victoria from 31,528 to 31,669 (a four per cent increase)
- decreased in South Australia from 19,274 to 15,659 (a 19 per cent decrease), although South Australia has the highest proportion of customers on hardship programs.³⁸⁸

Customer debt on hardship programs

The average debt on entry to a hardship program provides an indicator of how proactive retailers are in the early identification of customers facing hardship. Higher debt on entry may mean that a customer is less likely to be able to effectively manage their arrears and exit a hardship program successfully.

Figure 8.11 **Hardship customers' average electricity debt on entry**

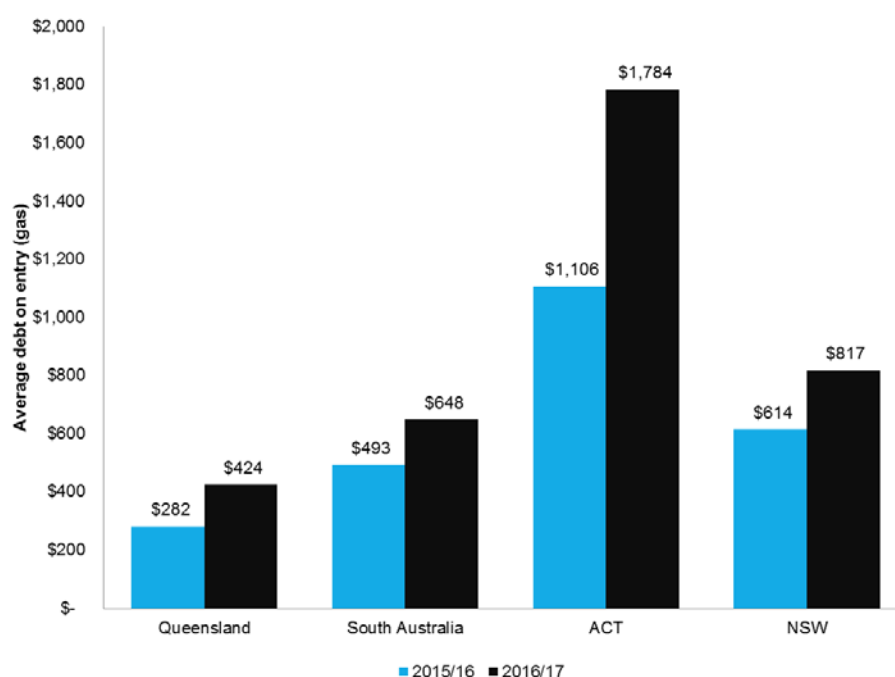


Source: ESC, AER, AEMC analysis. Note: * Victorian data includes gas and electricity customers.

As shown in Figure 8.11, the average debt on entry for electricity hardship customers in the NEM increased in all jurisdictions except Tasmania.

³⁸⁸ *ibid*, p. 27.

Figure 8.12 Hardship customers' average gas debt on entry



Source: AER, AEMC analysis. Note: Given Tasmania's small gas market, it has not been included here. Victorian gas data shown in Figure 8.11 as data is not reported separately.

As shown in Figure 8.12, the average debt on entry for gas hardship customers across jurisdictions increased. The Australian Capital Territory has the highest levels of average debt for customers in hardship and the highest increase in the level of debt of 46 per cent from 2015/16.

The increases in the average debt on entry into a hardship program for both electricity and gas could suggest that retailers may not have adequate processes in place to identify those customers who are experiencing financial difficulties early, before debt levels become unmanageable.

Customers exiting hardship programs

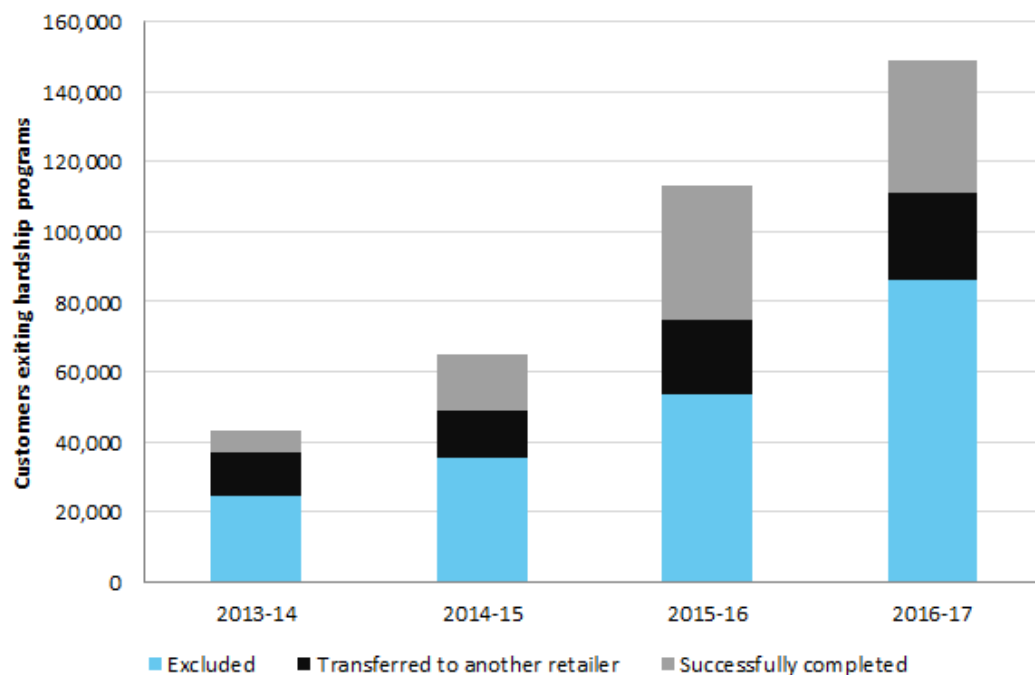
Another indicator of the success of hardship programs is the rate at which customers are able to pay off their arrears and exit the program.

As part of their performance reporting, the AER and the ESC look at the rates at which customers:

- successfully exit a hardship program by paying off their debt
- switch or were transferred to another retailer
- were excluded or removed from a program.

Where a customer is excluded from a hardship program, this indicates that the customer is unable to meet the payment arrangements set up under the program.

Figure 8.13 Customers exiting hardship programs



Source: ESC, AER, AEMC analysis. Note: includes electricity and gas for the NEM

The number of customers (both electricity and gas) exiting hardship programs after successfully paying off their debt remained around the same between 2015/16 to 2016/17, as shown in Figure 8.13 above. However, as a proportion of customers exiting hardship programs, overall the number of exits for successfully completing a hardship program fell from 34 per cent to 25 per cent. The results differ between electricity and gas (outside of Victoria which does not report on gas and electricity separately), with the number of customers successfully completing hardship programs:

- for electricity, decreasing from 36 per cent in 2015/16 to 27 per cent in 2016/17
- for gas, increasing from 15 per cent to 17 per cent.

Of greater concern, this reduction in the proportion of successful exits overall was accompanied by significant increases in the proportion of customers excluded from hardship programs.³⁸⁹ Figure 8.13 shows an increase from 47 per cent in 2015/16 to 58 per cent in 2016/17. This is comprised of an increase from around 46 per cent in 2015/16 to 57 per cent in 2016/17 for electricity customers in NECF regions, and from 56 per cent to 66 per cent for gas customers in NECF regions.

The AER notes that these increases in customers excluded from hardship programs were due in part to significant changes in the reported figures of the large retailers AGL and EnergyAustralia.³⁹⁰

³⁸⁹ Customers are excluded from hardship programs for failing to meet the requirements of the program, including for non-payment.

³⁹⁰ No further detail is provided on the reason for these figures. AER, *Annual Report on Compliance & the Performance of the Retail Energy Market 2016-17*, AER, Melbourne, 2016, p. 39.

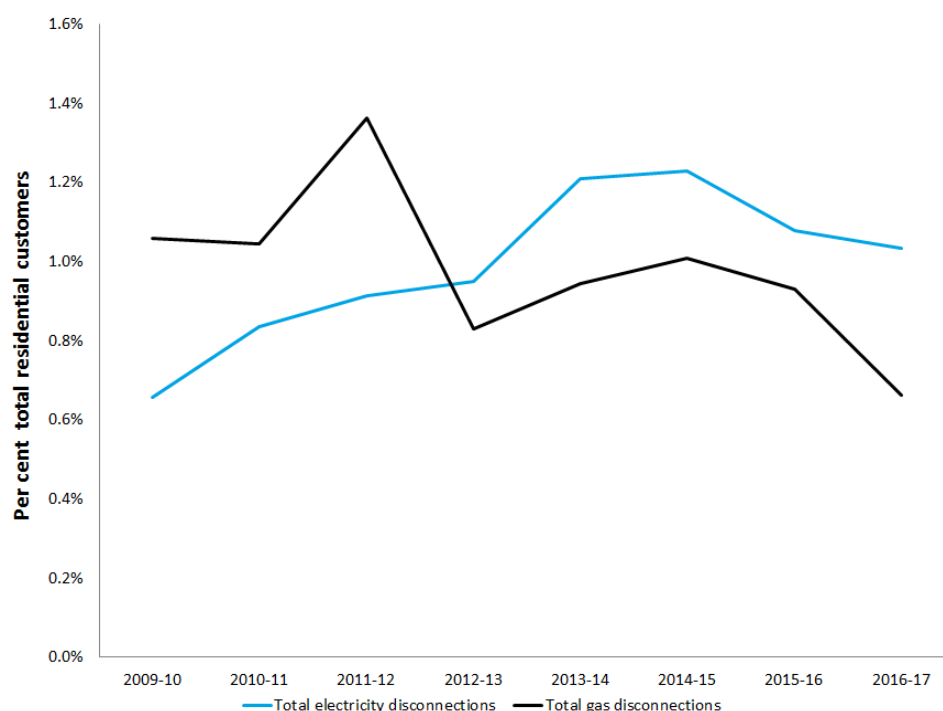
8.4.3 Disconnections

Customer disconnections arise as a result of non-payment of bills. As with hardship program indicators, the level of customer disconnections is an example of a consumer outcome that may only be in part related to the level and effectiveness of retail competition. However, the rate of disconnections provides information about consumers' ability to pay their bills after going through any support or hardship programs. It may be an indication of energy affordability and the ability of consumers to adequately engage in the market.

As shown in Figure 8.14, there was a decrease in the number disconnections across the NEM for both gas and electricity, although the reduction for gas was significant when compared to electricity.

The AER has previously reported that disconnection may occur because consumers are unwilling to engage with their retailer when they are facing financial difficulty.³⁹¹ For 2016/17 the AER noted low disconnection rates for hardship customers at less than one per cent of disconnections.³⁹² This highlights the benefits of consumers proactively discussing their payment difficulties with their retailer.

Figure 8.14 Total annual disconnection rate



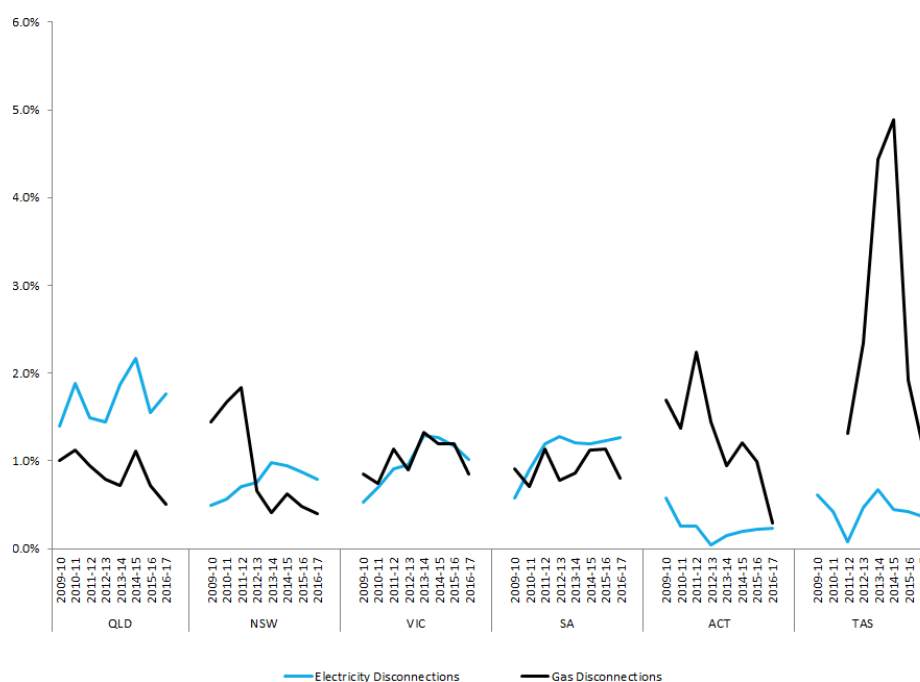
Source: AEMC analysis based on data obtained from AER and ESC. Data is for residential consumers.

Figure 8.15 below shows trends in residential customer disconnections relative to the customer base in each NEM jurisdiction, for retail electricity and gas markets.

³⁹¹ AER, *Annual Report on the Performance of the Retail Energy Market 2015-16*, AER, Melbourne, , p. 47.

³⁹² AER, *Annual Report on Compliance & the Performance of the Retail Energy Market 2016-17*, AER, Melbourne, 2016, p. 49.

Figure 8.15 Disconnection rates by jurisdiction



Source: AEMC analysis based on data obtained from AER and ESC. Note: the large swings in gas disconnection rates for Tasmanian consumers are likely due to be to the small size of that gas market.

Figure 8.15 shows that disconnection rates for electricity consumers:

- increased in South Australia, Queensland and the Australian Capital Territory
- decreased in New South Wales, Victoria and Tasmania.

Disconnection rates for gas customers decreased in all jurisdictions.

8.4.4 Current work to improve hardship program performance

Given the importance of hardship programs in keeping people connected to an essential service, and heightened concerns about affordability with the significant electricity price increases since 1 July 2017, the AER and ESC have reviewed the hardship protections that apply in the NECF jurisdictions and Victoria respectively.

In an effort to improve outcomes, the ESC last year introduced its *Payment Difficulty Framework*. This new framework is designed to assist customers in accessing programs that help them repay their energy debts. Retailers are required to implement the new framework by 1 January 2019.

The AER has also recently reviewed the hardship policies of retailers. This was in response to the results reported by retailers to the AER as part of their reporting requirements, and following an investigation into an alleged breach by Origin Energy of its hardship policies. The AER subsequently submitted a rule change request to the AEMC in March 2018. The rule proposes to allow the AER to develop binding hardship policy guidelines to assist retailers in developing policies that meet the minimum requirements under the NERL. The AER will also carry out a number of audits on hardship policy implementation in 2018.

In a recent report, the CPRC noted that responsibility for hardship customers is ultimately a social policy issue but has been transferred onto businesses, resulting in

piecemeal approaches to intervention.³⁹³ The CPRC considers that hardship policies may not adequately protect vulnerable or disadvantaged customers, and it is important to address issues that prevent customers effectively engaging with the market to be on the best deal possible.³⁹⁴ It notes that "[i]f markets are to be genuinely inclusive, then a safety net is required for vulnerable customers with reduced capacity to acquire the products that suit their needs".³⁹⁵

8.4.5 Concessions

Another support mechanism for customers facing financial difficulty is jurisdictional concession schemes. Concessions schemes can assist a range of customers with their energy bills. Under the NERL and the Retail Energy Code in Victoria, retailers are required to notify hardship customers of appropriate government concession programs.

However, as noted in the 2014 to 2017 Reviews, there are issues with concessions that should be addressed to improve their effectiveness.³⁹⁶

The Commission has previously highlighted that some customers who may be eligible for concessions are not aware of them, some customers who are particularly vulnerable may not be eligible for them, and some customers who do not need assistance receive it.³⁹⁷

As noted in chapter 3 retailers also have concerns with how the schemes are administered across jurisdictions.

The main form of support is through rebate schemes for consumers who hold concession cards such as Pensioner Concession Cards. These rebates are set at different amounts across jurisdictions and apply differently in each state. A list of the different concessions schemes for each jurisdiction is provided in Appendix E which highlights that across jurisdictions there is a variety of:

- types of concessions available in each jurisdiction
- consumers who may be eligible for concessions or rebates
- values of rebates, as well as the ways in which payments are received (quarterly or once a year, through bills or made directly to consumers, as a capped amount or based on the final bill)
- ways to apply for a rebate, through a retailer or government department.

In most cases customers apply for rebates and concessions schemes through their retailer, who then administers the payments. However, in South Australia, application

³⁹³ Solomon L., and Martin-Hobbs B., 2018, *Five preconditions of effective consumer engagement - a conceptual framework - Product information, consumer choice and market engagement*, CPRC, Melbourne, p. 24.

³⁹⁴ *ibid.*

³⁹⁵ *ibid.*, p. 17.

³⁹⁶ See Appendix B for more information.

³⁹⁷ Newgate Research, *AEMC 2016 Retail competition Review: Understanding vulnerable customer experiences and needs - Consumer Research Report*, June 2016, Newgate Research.

and administration of all rebates is done through the South Australian Government. This can create delays for customers who switch retailers. These customers can only reapply to the government for the concession after they have received their first bill from the new retailer. This may act as a barrier to switching, by discouraging vulnerable customers from changing retailers.

In each state, payments vary from capped amounts to a percentage of usage, and apply over different time periods. The St Vincent de Paul Society reports that single fixed energy rebate amounts vary in their usefulness depending on the householder's energy rates and consumption profile.³⁹⁸ The St Vincent de Paul Society also recognises that it can be difficult for state based schemes to respond to increasing prices, resulting in schemes becoming out-dated.³⁹⁹

In 2017, the AEMC recommended that jurisdictions review their concessions schemes with a view to harmonisation. Since then, the New South Wales Auditor General released a report on the New South Wales energy rebates for low income households. Some of the key findings of that report are that:

- The structure of schemes for ongoing support is complex with different application processes for different types of rebates.
- The design of the rebates schemes creates some inequities and households can receive different levels of support based on who holds the account, whether they have gas and electricity, and for rural customers with high distribution cost components.
- Because of the variability of concessions schemes across jurisdictions many retailers find it difficult to provide accurate information to households.⁴⁰⁰

Retailer impacts

As noted in chapter 3, while concession inequities impact on vulnerable customers, there is also an impact on retailers who are required to administer them. Retailers interviewed noted that concession reform is needed due to the variation of processes across the jurisdictions, and the complexity of application in some jurisdictions.

From a retailer's perspective, variation in processes across the NEM creates additional costs and administration requirements.

³⁹⁸ Johnston M.M., 2013, *The relative value of energy concessions 2009-2012 - Part 2 of the Vinnies' Concession Project*, St Vincent de Paul Society and Alvis Consulting, Melbourne.

³⁹⁹ *ibid.*

⁴⁰⁰ New South Wales Auditor-General, *New South Wales Auditor-General's Report - Performance Audit - Energy rebates for low income households - Department of Planning and Environment*, Audit Office of New South Wales, 2017, Sydney.

9 Outcomes for small and medium businesses

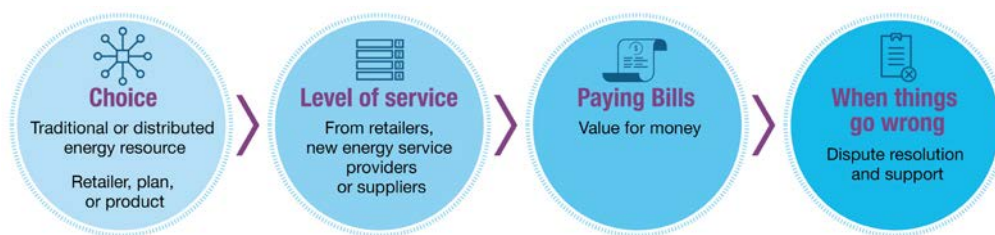
Summary of key findings

- Satisfaction of small and medium businesses with energy market outcomes decreased in the last year, driven by increases in electricity prices. A number of satisfaction measures are at the lowest levels since surveys commenced in 2014.
- The Small Business survey showed that in February 2018 (compared to January 2017) satisfaction:
 - in customer choice with energy companies and plans was 53 per cent (a decrease of eight per cent), with jurisdictions with more retailers having higher satisfaction.
 - with current electricity providers was 53 per cent (a decrease of 17), while this has been decreasing since 2016, it is now at the lowest level since 2014
 - with gas retailers has remained relatively steady over the past five years between 64 and 72 per cent
 - with the level of customer service from electricity retailers was 57 per cent (a decline of eight per cent)
 - with value for money for electricity has remained relatively steady since 2016 between 57 and 47 per cent, but decreased slightly by four per cent in the last year
 - with the value for money for gas was 61 per cent which was an increase of 18 per cent since 2016.
- For the first time since surveys commenced, consumers rated the value for money from Big 3 retailers above Tier 2 retailers. Tier 2 retailers experienced a decrease in satisfaction in their value for money rating of 13 per cent. It may reflect Tier 2 retailers have been more adversely affected by increases in wholesale costs.
- Disconnections of business customers decreased across the NEM by 28 per cent for electricity, and 16 per cent for gas.

This chapter examines the performance of the energy market in relation to small and medium business consumers (hereinafter referred to as businesses). In particular, it examines businesses' perceptions of the market and the outcomes they are achieving.

Business perceptions are referenced against the same customer experience map used in chapters 7 and 8, and shown in Figure 9.1.

Figure 9.1 Customer experience map



Key performance metrics examined were businesses' satisfaction with:

- the level of choice of retailers and plans (section 9.1.1)
- the level of service, measured through satisfaction with their current provider (section 9.1.2) and the quality of customer service (section 9.1.4)
- value for money for electricity and gas (section 9.1.4)
- whether satisfaction levels varied between customers of the Big 3 and Tier 2 retailers (section 9.1.4)
- where things go wrong, measured through complaints (section 9.2) and disconnections (section 9.3).

As described in chapter 6, the AEMC commissioned Colmar Brunton to carry out a survey of businesses across NEM jurisdictions to determine their satisfaction. The field research, conducted in February 2018, is presented in the *2018 Retail Competition Review - Small Business Survey Report* (The Small Business survey report).⁴⁰¹

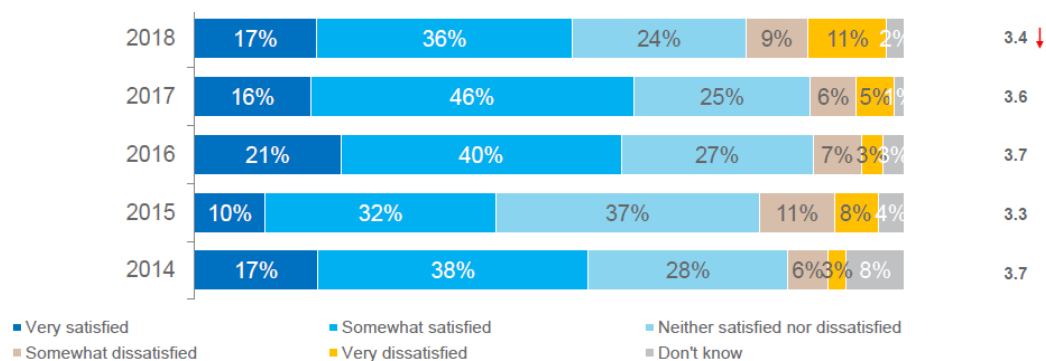
9.1 Small business consumer satisfaction

9.1.1 Satisfaction with the level of competitive choice

The Small Business survey asked businesses about their satisfaction with the level of choice of energy companies and plans available to them. The questions related to energy services, so included perceptions of electricity and gas services.

The results are shown in Figure 9.2 below for the average across the NEM jurisdictions.

Figure 9.2 Satisfaction with level of choice of energy companies and plans



Source: *2018 Small Business Survey Report*, Colmar Brunton p. 29. A 'satisfied' consumer is one that gave a rating of four or five, and a 'dissatisfied' consumer is one that gave ratings of one or two.

⁴⁰¹ Available on the AEMC website page for the 2018 Retail Competition Review.

The average satisfaction across the NEM jurisdictions with choice of energy companies and plans decreased in 2018 to 3.4, down from 3.6 in 2017.⁴⁰² The proportion of satisfied businesses has also fallen from 62 per cent last year, to 53 per cent in 2018. The only jurisdiction to see an increase in satisfaction was Victoria with around 70 per cent of businesses satisfied with the level of competition available.⁴⁰³

In general, there is a correlation between the levels of business consumers' satisfaction with the level of choice in a jurisdiction and the number of active retailers in those regions. For example, businesses in Victoria, New South Wales and South East Queensland have above average levels of satisfaction, whereas businesses in regional Queensland and Tasmania are less likely to be satisfied with the level of competition.

The 2018 results also saw the highest proportion of 'very dissatisfied' consumers across the five survey periods, at 11 per cent compared to five per cent in 2017.

In a related question, businesses were asked whether they had a choice of retailer or plan. This preceded the question about their level of satisfaction with their level of choice. There were some interesting results.

- South East Queensland was the only jurisdiction in which all respondents answered they had a choice in electricity retailer.
- 13 per cent of business respondents in New South Wales, and seven per cent in both Victoria and South Australia did not think they had a choice of electricity retailer.
- 88 per cent of Tasmanian businesses, 82 per cent of regional Queensland businesses and 24 per cent of businesses in the Australian Capital Territory do not believe they have a choice of electricity retailer. While there is limited choice in Tasmania and regional Queensland, the result in the Australian Capital Territory seems to be lagging the recent competitive entry into that market.⁴⁰⁴

The results are shown in Table 9.1 below.

402 Satisfaction was recorded on a five point scale from very satisfied (5) to very dissatisfied (1).

403 *2018 Retail Competition Review - Small Business Survey Report*, Colmar Brunton, p.100.

404 *2018 Retail Competition Review - Small Business Survey Report*, Colmar Brunton, pp.86-150.

Table 9.1 Business perception of available level of choice of electricity retailer and plan

Question	Business in your state/territory can choose their electricity company		Businesses in your state/territory can choose from a range of different types of electricity plans, price structures, contract lengths and terms	
	True (per cent)	False (per cent)	True (per cent)	False (per cent)
NEM average	91	8	84	12
New South Wales	87	13	84	14
Victoria	91	7	82	10
South East Queensland	100	0	89	7
South Australia	93	7	87	12
Tasmania	12	88	13	84
Australian Capital Territory	66	24	59	30
Regional Queensland	14	82	17	81

Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 27. Note: total may not add up to 100 per cent as customers were also able to answer that they did not know.

9.1.2 Satisfaction with current provider

Electricity

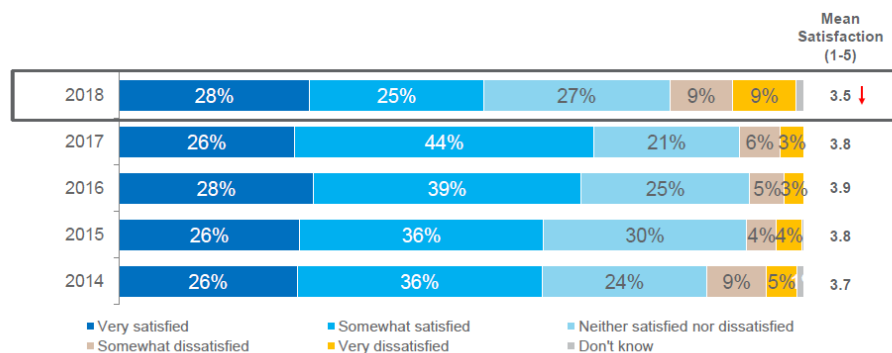
There was a significant decrease in the average overall satisfaction with electricity providers in 2018. While 70 per cent of businesses were satisfied in 2017, this fell to 53 per cent in 2018. This is a reversal of the previous four-year trend of increasing satisfaction.

Across the NEM, the average consumer satisfaction rating also dropped from 3.8 in 2017 to 3.5 in 2018.⁴⁰⁵ This is the lowest level of average satisfaction in the five survey periods, and continues a reducing trend in average satisfaction from 2016.

These results are observable in Figure 9.3 below.

⁴⁰⁵ Satisfaction was recorded on a five point scale from very satisfied (5) to very dissatisfied (1).

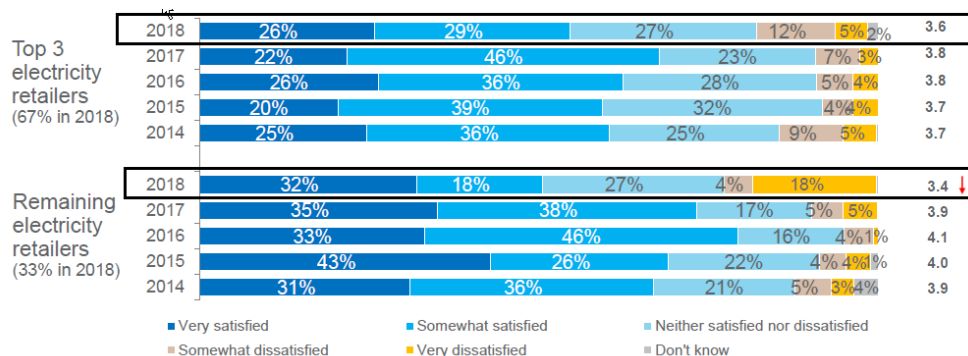
Figure 9.3 Overall satisfaction with current electricity retailer



Source: *2018 Retail Competition Review - Small Business Survey Report*, Colmar Brunton, p. 17. A 'satisfied' consumer is one that gave a rating of four or five, and a 'dissatisfied' consumer is one that gave ratings of one or two.

Approximately two-thirds of surveyed businesses were customers of the Big 3 retailers. Figure 9.4 below shows business consumers' satisfaction with their retailer for Big 3 and Tier 2 retailers.

Figure 9.4 Overall satisfaction with Big 3 electricity retailers compared to Tier 2 retailers



Source: *2018 Retail Competition Review - Small Business Survey Report*, Colmar Brunton, p. 19. Note: 'Top 3 electricity retailers' refers to the Big 3 electricity retailers and 'remaining electricity retailers' refers to Tier 2 retailers. A 'satisfied' consumer is one that gave a rating of four or five, and a 'dissatisfied' consumer is one that gave ratings of one or two.

Although there was a significant reduction in the overall satisfaction ratings of customers in 2018, the relative change in satisfaction was not uniform for customers of the Big 3 and Tier 2 retailers. The proportion of satisfied Big 3 customers fell from 68 per cent in 2017 to 55 per cent in 2018. However the reduction in satisfaction was more pronounced for customers of Tier 2 retailers, falling from 73 per cent in 2017 to 50 per cent in 2018. For each customer group, the 2018 results are the lowest ratings during the five survey periods. It is also the first year that customers of Tier 2 retailers have recorded lower satisfaction levels compared to customers of the Big 3.

Average levels of satisfaction also reduced for both sets of customers. Average satisfaction with the Big 3 reduced from 3.8 in 2017 to 3.6 in 2018. A larger reduction occurred for consumers with Tier 2 retailers from 3.9 in 2017 to 3.4 in 2018.⁴⁰⁶

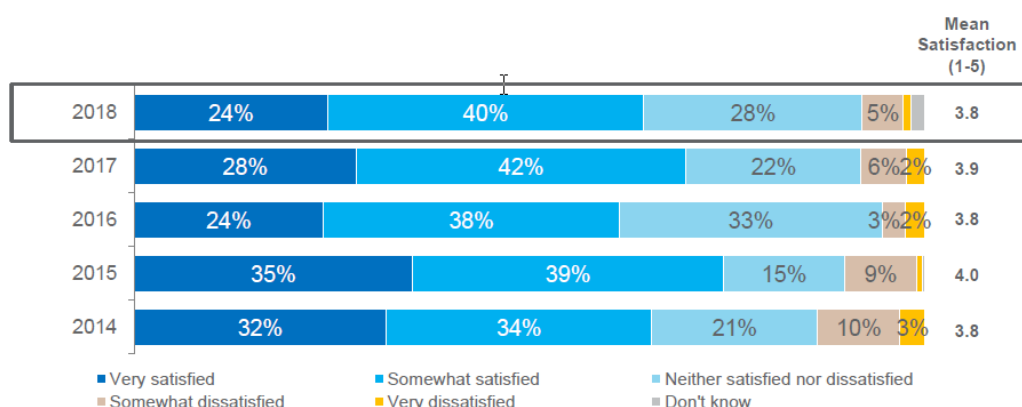
⁴⁰⁶ Satisfaction was recorded on a five point scale from very satisfied (5) to very dissatisfied (1).

Gas

The satisfaction of businesses with gas retailers also reduced from 2017 to 2018, although the reduction was less pronounced than for electricity.

As shown in Figure 9.5 below, across the business in NEM-based jurisdictions' satisfaction with their retailer reduced from 70 per cent in 2017 to 64 per cent in 2018. However, there was also a reduction in the proportion of customers who were 'dissatisfied'; from eight per cent in 2017 to six per cent in 2018. As such, in 2018, the overall satisfaction with current gas retailer remained broadly stable statistically and is in line with the levels observed in previous years.

Figure 9.5 Overall satisfaction with current gas retailer



Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 18. Note: a small base was obtained in 2018. State based findings can be found in the Small Business Survey Report by Colmar Brunton. However, the statistical bases for the Australian Capital Territory, South East Queensland, regional Queensland and Tasmania were too small for the findings to be reported. A 'satisfied' consumer is one that gave a rating of four or five, and a 'dissatisfied' consumer is one that gave ratings of one or two.

9.1.3 Satisfaction with level of customer service

Electricity

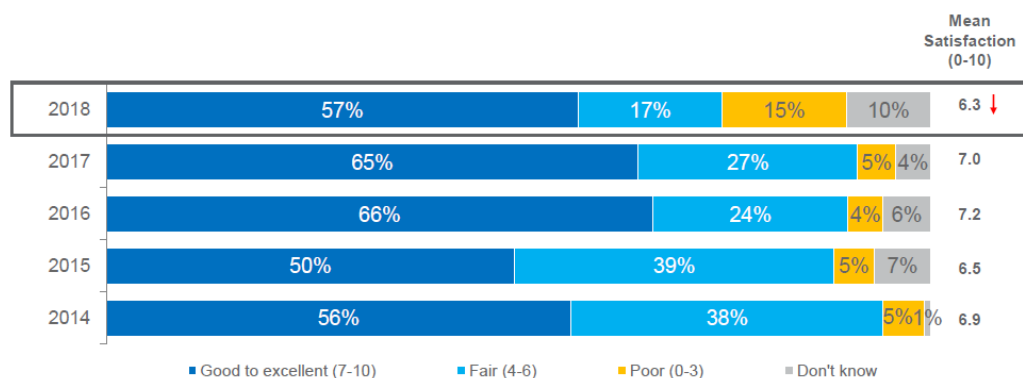
The proportion of businesses that were satisfied with the level of customer service from their electricity retailer declined from 65 per cent in 2017 to 57 per cent in 2018, as illustrated in Figure 9.6 below. Queensland was the only jurisdiction to see an increase in satisfaction with customer service, moving from 66 per cent in 2017 to 69 per cent in 2018 in South East Queensland and from 52 per cent in 2017 to 82 per cent in 2018 for regional Queensland.⁴⁰⁷

The reduction in the average satisfaction with customer service rating was the lowest rating since surveys of business consumers commenced in 2014.⁴⁰⁸

⁴⁰⁷ 2018 Retail Competition Review- Small Business Survey Report, Colmar Brunton, pp. 176 & 204

⁴⁰⁸ The survey used a scale where zero means 'very poor' and ten means 'excellent'.

Figure 9.6 Satisfaction with the level of customer service from electricity retailers



Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 20. Note: A rating of seven to ten indicates that a consumer is 'satisfied' with the level of customer service.

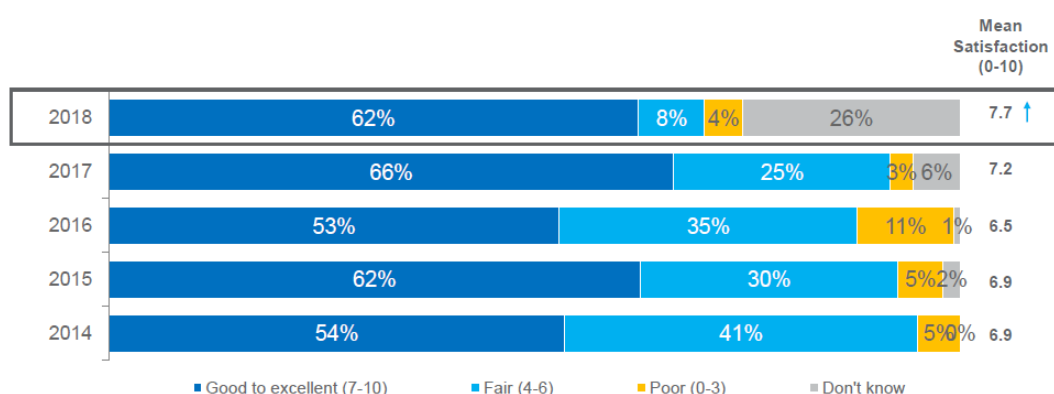
Gas

Figure 9.7 below shows business satisfaction with the level of customer service from their gas providers. There was a small reduction in the proportion of customers that were satisfied (from 66 per cent in 2017 to 62 per cent in 2018). However, on average satisfaction increased from 7.2 in 2017 to 7.7 in 2018, which is the highest recorded rating in the past five surveys.⁴⁰⁹

Notably, this was driven by a large increase in the proportion of businesses that chose a 'don't know' rating in relation to the level of customer service. This went from six per cent in 2017 to 26 per cent in 2018.

The variability in these results may in part be due to the smaller sample size of business respondents using gas.

Figure 9.7 Satisfaction with the level of customer service from gas retailers



Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 21. Note: a small base was obtained in 2018. State based findings can be found in the Small Business Survey Report by Colmar Brunton. However, the statistical bases for the Australian Capital Territory, South East Queensland, regional Queensland and Tasmania were too small for the findings to be reported. A rating of seven to ten indicates that a consumer is 'satisfied' with the level of customer service.

⁴⁰⁹ The survey used a scale where zero means 'very poor' and ten means 'excellent'.

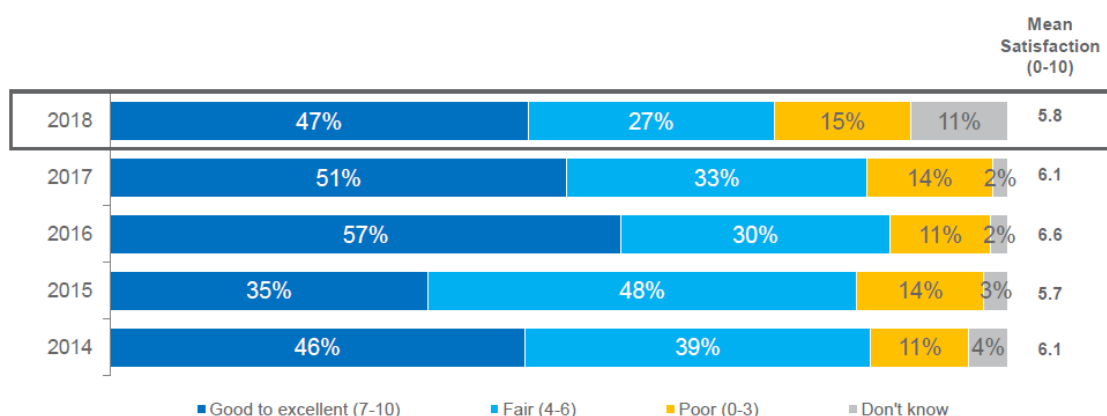
9.1.4 Satisfaction with value for money

Electricity

While perceptions of the value for money of electricity have declined slightly in 2018, average satisfaction did not fall by a statistically significant amount. As shown in Figure 9.8 below, in 2018, the average satisfaction rating was 5.8, down from 6.1 in 2017.⁴¹⁰ The proportion of small business consumers that stated that they were satisfied with the value for money of electricity was 47 per cent for the NEM, down four per cent from 2017. This continues the trend from 2016 of decreasing satisfaction, with the 2018 proportion ten per cent lower than the 2016 figure.

Notably, in 2018 less than half of business customers are satisfied with the value for money they achieve with electricity. Victoria was the only jurisdiction to see an increase in the level of satisfaction with value for money. It moved from 45 per cent in 2017 to 55 per cent in 2018.

Figure 9.8 Value for money from electricity retailers



Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 22. Note: A rating of seven to ten indicates that a consumer is 'satisfied' with value for money.

The proportion of businesses that stated they did not know how to rate their perception of the value for money they were receiving for electricity has grown in the past year. More than one in ten businesses have indicated that they did not know how to rate their value for money. This is a material increase compared to the previous surveys.⁴¹¹

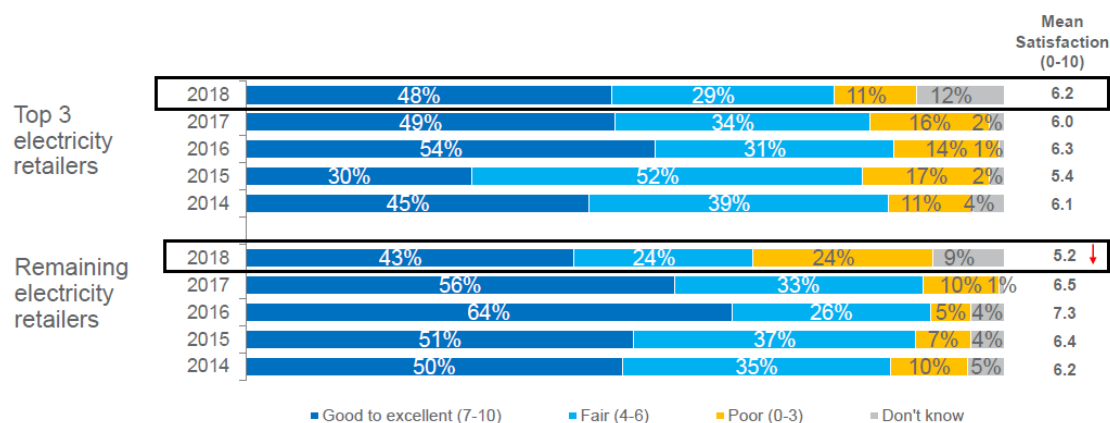
In 2018, business customers of the Big 3 recorded higher levels of satisfaction with value for money than business customers of the Tier 2 retailers. Figure 9.9 below shows 48 per cent of Big 3 customers and 43 per cent of Tier 2 retailer customers being satisfied with their value for money. This represented very little change from 2017 for customers of the Big 3 (49 per cent in 2017) but was a material reduction for customers of Tier 2 retailers (56 per cent in 2017). The change for Tier 2 retailers was also accompanied by a large increase in the proportion of business customers who rated electricity value for money as 'poor' (24 per cent in 2018 compared to 10 per cent in 2017).

⁴¹⁰ The scale used was out of ten where zero means 'very poor' and ten means 'excellent'.

⁴¹¹ This shift in results may be due to a change in survey methodology, however this cannot be verified.

These changes were also observable in the average satisfaction ratings. In 2018, the average satisfaction rating for value for money with the Big 3 was 6.2, while it was 5.2 for Tier 2 retailers.⁴¹² Therefore, 2018 was the first year of the surveys in which the Big 3 rated higher than Tier 2 retailers in the proportion of satisfied customers and in the average rating for satisfaction with value for money.

Figure 9.9 Value for money - Big 3 retailers compared to Tier 2 retailers



Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 24. Note: Top 3 refers to the Big 3 and remaining electricity retailers refers to Tier 2 retailers. A rating of seven to ten indicates that a consumer is 'satisfied' with value for money.

The change in value for money ratings may be due to the better financial position that the Big 3 have due to their vertical integration and hedging positions. That is, unlike smaller or stand-alone retailers, overall the Big 3 have not been as adversely impacted by increases in the wholesale contract and spot prices, as their wholesale generation portfolios benefit from these increases.⁴¹³ The Big 3 potentially were able to increase their retail tariffs by a smaller degree than Tier 2, non-vertically integrated retailers.⁴¹⁴ This smaller bill increase may have led to less bill shock or lower bills comparatively and, hence, a higher perception of value for money of the Big 3.

Gas

The average satisfaction of small business consumers in relation to the value for money of gas has risen compared to the levels observed in 2017, as shown in Figure 9.10; the average satisfaction has increased slightly across the jurisdictions from 6.2 in 2017 to 6.6 in 2018.⁴¹⁵

There has also been an increase in the proportion of businesses that stated they are satisfied with the value for money for gas. Satisfaction levels rose from 43 per cent in 2016 to 51 per cent in 2017, and to be 61 per cent in 2018. The proportion of business

⁴¹² The scale used was out of ten where zero means 'very poor' and ten means 'excellent'.

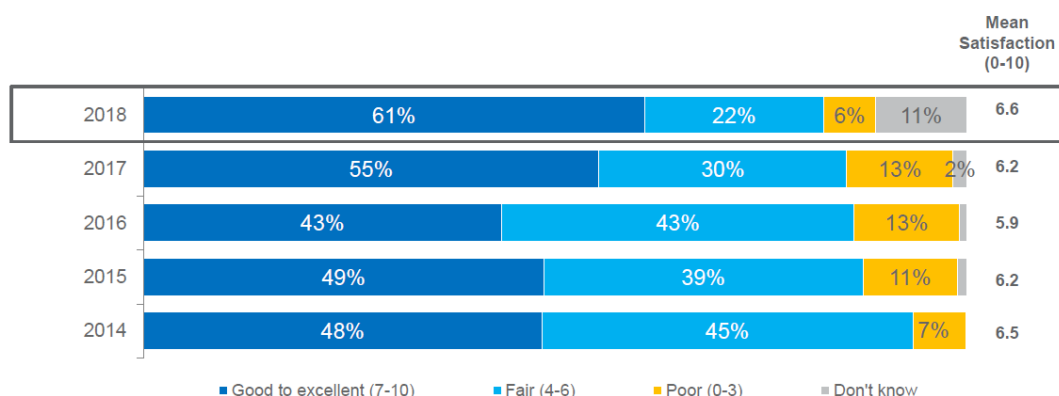
⁴¹³ As highlighted in its 2016-17 Annual Report AGL reported an increased energy EBIT for 2016/17. This is because, while its customer EBIT was down, this was offset by a large increase in its wholesale market EBIT. Non-vertically integrated retailers are not able to offset such losses.

⁴¹⁴ See Energy Consumers Australia, *Small Business Tariff-Tracking Project*, Final Report, December 2017.

⁴¹⁵ The scale used was out of ten where zero means 'very poor' and ten means 'excellent'.

customers rating value for money for gas as 'poor' also declined from 13 per cent in 2017 to six per cent in 2018.

Figure 9.10 Value for money from gas retailers



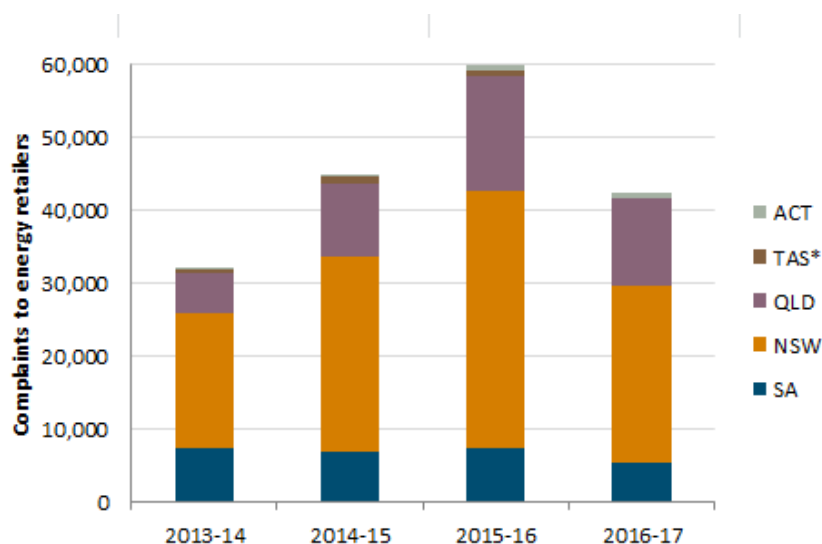
Source: 2018 Retail Competition Review - Small Business Survey Report, Colmar Brunton, p. 23.

9.2 Business complaints to retailers

The following analysis explores data on complaints by businesses to retailers in regions that have adopted the National Energy Consumer Framework (NECF). It does not cover Victoria, as the ESC does not record complaints to retailers separately for residential and business consumers.

As with residential consumers, overall complaints to energy retailers by businesses decreased by 28 per cent across all NECF regions in the period to 2016/17. This reverses a trend of increasing complaints since 2013/14, as illustrated in Figure 9.11.

Figure 9.11 Complaints to energy retailers by businesses



Source: AER, AEMC analysis. Note: includes both electricity and gas, and does not present data on Victoria. *Tasmania data for 2013/14 is only from the third and fourth quarter of that financial year.

Complaints in each region reduced by 19 to 31 per cent, with the exception of Tasmania which observed an increase of 47 per cent. New South Wales recording the largest drop complaints and the Australian Capital Territory the smallest decrease. The AER notes that this fall in complaints was significantly influenced by large decreases in complaints

reported by Origin Energy.⁴¹⁶ As discussed in chapter 8, Origin Energy modified its method for recording complaints to correct the over-capture of complaints. The result of this is the significant decrease in its complaint numbers for 2016/17. This change in methodology, however, would not have affected the complaint numbers for Tasmania as Origin Energy does not operate in that jurisdiction.

These figures do not reflect any changes in complaint levels following the price increases in mid-2017.

9.3 Business disconnections and hardship

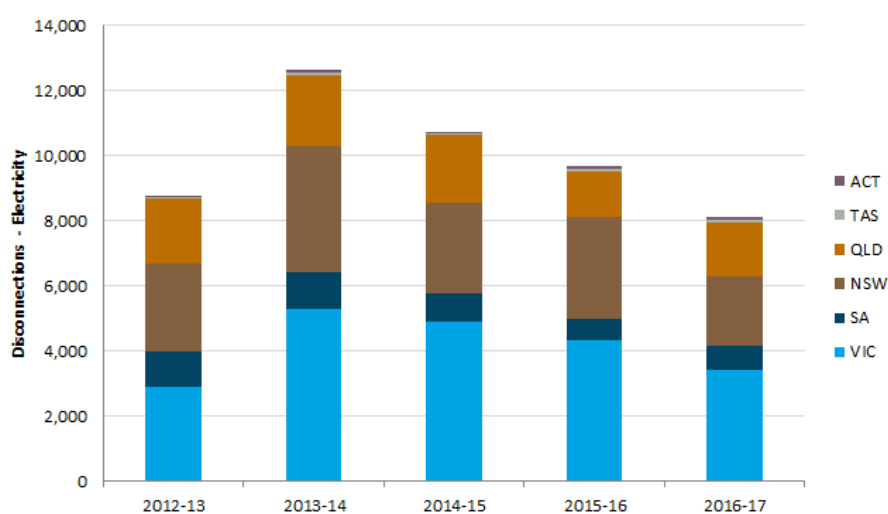
As shown in Figure 9.12 and Figure 9.13 below, in 2016/17, disconnections of business customers have decreased across the NEM by 28 per cent for electricity, and 16 per cent for gas. The analysis below is for 2016/17, and does not reflect any changes to numbers since the price increases in July 2017.

While electricity disconnections decreased across the NEM, South Australia and Queensland were the only two jurisdictions to see an increase in 2016/17. As shown in Figure 9.12:

- South Australia increased from 678 disconnections to 727 (a seven per cent increase)
- Queensland from 1,403 to 1,641 (a 17 per cent increase)
- New South Wales had the highest decrease in electricity disconnections from 3,107 to 2,137 (a 31 per cent decrease)
- Victoria with a decrease from 4,319 to 3,434 (a 20 per cent decrease). Tasmania and the Australian Capital Territory remained relatively static.

All jurisdictions experienced a decrease in the disconnection of gas business customers.

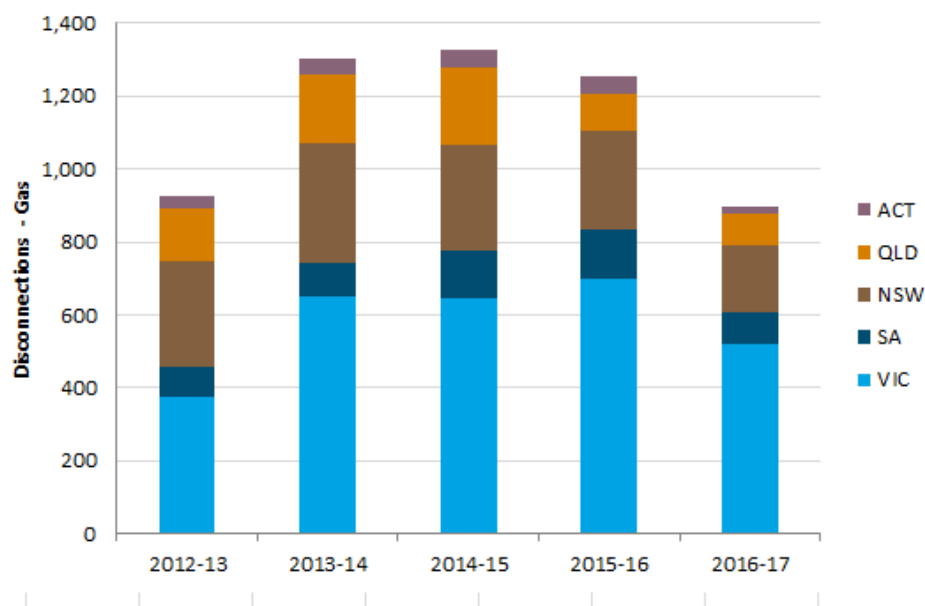
Figure 9.12 Electricity disconnections for businesses



Source: AER/ESC data, AEMC analysis

⁴¹⁶ AER, *Annual Report on Compliance and Performance of the Retail Energy Market 2016–17*, AER, Melbourne, 2017.

Figure 9.13 Gas disconnections for businesses



Source: AER/ESC data, AEMC analysis

As discussed in chapter 4, the price increases that occurred in late 2016 and in mid-2017 were larger for small business customers than for residential customers. Anecdotal evidence suggests these price rises have increased business concerns about energy affordability. The forthcoming ACCC electricity pricing inquiry may provide further detail on the impact of price rises on small businesses.

As noted in chapter 8, retailers have responsibility for hardship programs for residential customers. For businesses, energy affordability issues are an industry policy issue rather than one of social policy. Therefore, while it may not be appropriate to extend hardship programs to small and medium businesses, there is merit in considering whether some form of assistance should be available. This would recognise the importance of the small and medium business sector to the national economy. One such assistance step may be for retailers to provide payment plans to business customers.

10 Outcomes for retailers

Summary of key findings

- Small customer (residential and small business) data from the Big 3 retailers shows in the electricity market from 2015/16 to 2016/17 across Victoria, New South Wales, South Australia, and South East Queensland:
 - average prices of the Big 3 customers increased by eight per cent
 - the average cost of goods sold increased by seven per cent
 - gross margins (revenue minus the cost of goods sold) increased by ten per cent on a cents per kWh basis and by 12 per cent on a dollar per customer basis, and the largest increase in gross margin occurred in South Australia.
- Gross margins across Victoria, New South Wales, South Australia, and South East Queensland on a cents per kWh and dollar per customer basis in 2016/17 show:
 - on a cents per kWh basis are highest in Victoria at 6 cents per kWh, followed by New South Wales at 5.5 cents per kWh
 - on a dollars per customer basis are highest in New South Wales at \$386 per customer per annum, followed by Victoria at \$371 per customer per annum
 - any comparisons are affected by the volume of electricity consumed, in particular, Victorian consumers on average have lower electricity consumption levels than New South Wales consumers
- These results are prior to the price increases in July 2017 and January 2018. If margins were to be sustained or increase further in 2017/18, then with the observed increases in wholesale costs, retail prices and the largely inelastic nature of electricity demand, it would highlight to the Commission an absence of effective competitive rivalry in the electricity sector.
- Any actions to limit retail margins through re-regulation of prices must carefully consider how decreasing margins will affect their ability to invest in innovation at a time of rapid change in the market.
- The ACCC is expected to examine retail margins and other financial metrics in depth as part of its retail electricity pricing inquiry.

The analysis in chapters 8 and 9 examined the performance of the competitive energy sector in delivering outcomes for small consumers. This chapter focuses on the how competition is effecting the performance of the Big 3 retailers in the retail electricity market in Victoria, South Australia, New South Wales and South East Queensland. In the absence of information gathering power, the Commission uses data voluntarily provided by the Big 3 retailers – who had over 75 per cent of the electricity small customer base in most deregulated regions, except Victoria (59 per cent) in 2017 – and measure the combined gross margin across each jurisdiction was used.

The ACCC's electricity pricing inquiry is also reviewing margins. It will look at the net margins, as opposed to the gross margins, of the electricity retailers over time. The ACCC's information gathering powers position it well to take a more in-depth look at the financials of all retailers, not just the Big 3 retailers.

10.1 Understanding retailer margins

To provide services to consumers, retailers need to earn revenue that covers their costs and generate a return that is commensurate with the risk they manage in the market. As noted in Chapter 3 of the 2017 Review, a particular risk managed by electricity retailers is to shield customers from being exposed to the price volatility of the wholesale electricity spot market in the retail prices they pay. In this way the previous review noted that electricity retailers faced similar risks to financial institutions.

A retailer's gross margin is the difference between its revenues and its cost of goods sold. Periodic data on gross margins informs any change in the relationship between revenues and these costs over time. Importantly though it does not inform whether the retailer is actually making the required return to cover the risk it is taking on and therefore making an economic profit.

Further discussion of the different types of margins often used to capture the profitability of energy retailers, along with each measures strengths and weaknesses, is described in the following section.

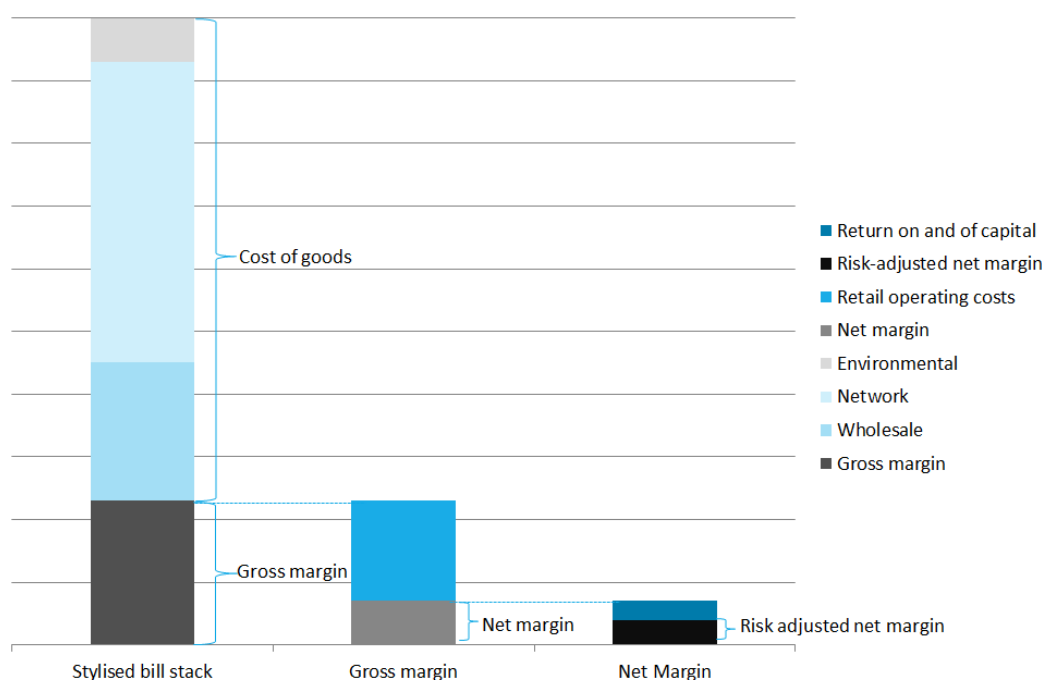
10.1.1 Types of retailer margins

As described in the 2017 Review, there are three widely-used measures of margins:

- *Gross margin* is defined as a retailer's revenue less the costs of goods sold. This is the broadest type of margin and a high gross margin for a business may simply reflect high operating costs or high risks, rather than the business being economically profitable.
- *Net margin*, also sometimes known as earnings before interest tax, depreciation and amortisation (EBITDA), is a retailer's revenue less the costs of goods sold, less the costs associated with operating the retail business. While a better measure of profitability than gross margin, a positive net margin may simply reflect that the business has large infrastructure costs or has substantial risks that it is trying to recover, rather than it being economically profitable.
- *Risk-adjusted net margin*, also sometimes known as economic value add (EVA), is the net margin less the return of (depreciation) and return on capital. This margin reveals more about the true profitability of the business and is the closest accounting measure to assessing economic profit. In an effectively competitive market, this margin would, in the long-run, expected to be close to zero.

The relationship between these margin measures as components of a stylised bill stack is shown in Figure 10.1 below.

Figure 10.1 Components of a retail electricity bill, and gross, net and risk-adjusted net margins



The risk-adjusted net margin is the best margin from which to undertake an assessment of the effectiveness of competition over time. It is also the hardest to measure. In particular, the risk-adjusted net margin relies on information about a retailer's return on capital, which in turn is a function of a retailer's cost of debt and cost of equity. While the cost of debt is observable, the cost of equity requires estimation.

The data voluntarily provided by the Big 3 retailers only enables the Commission to measure gross margins.

10.1.2 Interpreting retail margin data

Effective competition drives individual retailers to optimise their revenues by meeting customer needs and minimising their costs by restricting expenditures to economically efficient levels. Collectively, effective competition should mean that over time any excess margins are competed away. A view of retailer margins over time can therefore be an indicator of the effectiveness of competition.

However, interpreting margin results is not necessarily straightforward.

The process of innovation - whether that is at a product, pricing or service level - may mean one retailer gains an advantage in the market for a period of time. That advantage may relate to its revenues or costs, but will increase margins until its competitors catch up or surpass its offerings. When looking at margins in such circumstances it is more useful to examine margins at the industry level rather than the individual retailer level.

Similarly, when technology is changing, and the economics of an industry are evolving from an old to a new technology and products, there can be material changes in the industry margins observable. This was seen in the mobile telecommunications industry when service offerings moved from basic mobile voice and SMS services, to retailers providing voice, SMS and data services. This resulted in an increase in the overall

margins for mobile providers. However it also saw an increase in the value of the service to customers. Again, when considering what margins indicate about the effectiveness of competition, a collective rather than individual perspective is more useful.

Consistent with the above comments, gross margins are likely to vary between individual retailers for a number of other reasons, including:

1. Differences in the organisational structure of retailers, primarily between vertically-integrated and standalone retailers. Structure impacts on a retailer's exposure to wholesale market risks and the prices paid by the retail arm of a vertically integrated retailer.
2. Differences in the customer bases of different retailers can impact margins. For example, the Big 3 may have a higher proportion of customers that are of higher value and less likely to churn than other retailers.

It is important to understand such differences when interpreting any individual retailer's gross margins.

Further, the discussion above shows it may be very difficult to draw any definitive conclusions on the effectiveness of competition from just assessing gross margins. Margins need to be considered with a range of other measures and factors. For example, there may be no concerns about the effectiveness of competition where gross margins are increasing due to much lower operating costs, and customers are still experiencing lower prices and higher levels of satisfaction. In contrast, high gross margins being earned over time by a business where it is undertaking little innovation, managing minimal risks, and having decreasing levels of customer satisfaction, is likely to suggest problems with the effectiveness of competition in that sector.

10.2 Big 3 retailer margin analysis

This section sets out the average price paid per kWh of electricity, and how that is broken down into the cost of goods sold and gross margin. The analysis provides a view for each of Victoria, New South Wales, South Australia and South East Queensland, and additionally an average across those jurisdictions.

Importantly, the Big 3 retailers have voluntarily provided data to the end of the 2016/17 year. The results therefore do not include the effect of the price rises that occurred in July 2017 and January 2018. As noted in chapter 4, these price rises were significant and will have a material effect on the next iteration of results.

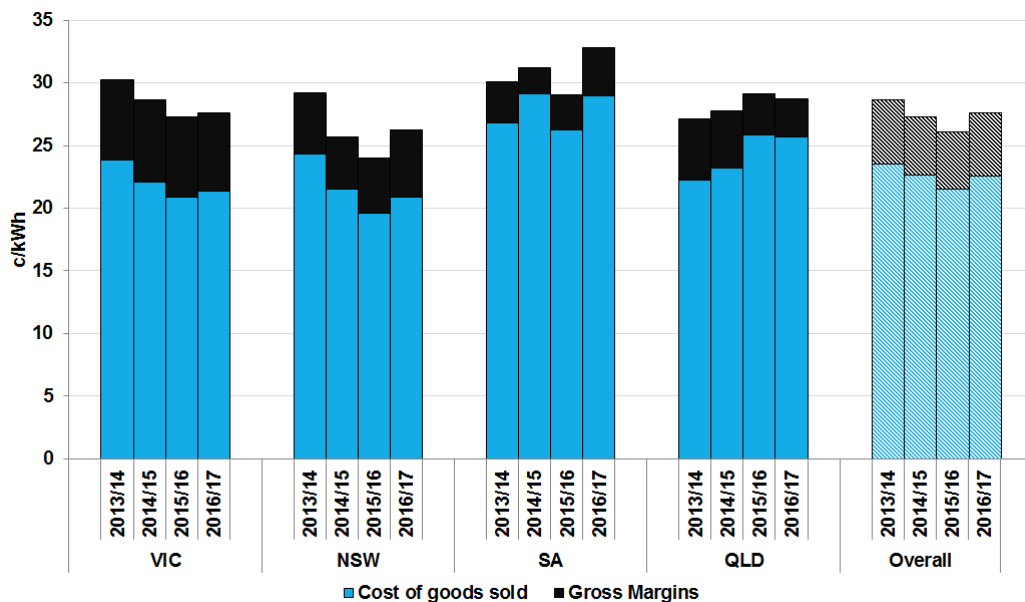
10.2.1 Changes in the average price paid and the cost of goods sold

This year, the Big 3 retailers provided us with data on small electricity customers (residential and small business customers), whereas in the 2017 Review the Commission reported on the residential sector only. Therefore, the results from this year's review are not directly comparable with the 2017 Review results.

Figure 10.2 shows the average price paid by customers of the Big 3 in the period 2013/14 to 2016/17. This differs from the results shown in section 4.3.1, which looks at residential customers. Notable results include:

- Of the jurisdictions examined, in 2016/17, South Australia had the highest average price at 33 cents per kWh, followed by South East Queensland at 29 cents, Victoria at 28 cents and New South Wales at 26 cents.
- In each jurisdiction examined, the average price increased from 2015/16 to 2016/17, with the exception of South East Queensland where there was a marginal decrease:
 - Prices rose by 13 per cent in South Australia, nine per cent in New South Wales, one per cent in Victoria, and six per cent across the examined jurisdictions.
 - Prices in South East Queensland decreased by one per cent.

Figure 10.2 Retailer data: average prices paid by customers of the Big 3 (by jurisdiction)



Source: Confidential data provided by retailers. Note: annual data for one retailers is by calendar year. Price shown is the weighted-average price paid across small customers based on customer numbers. Overall data set is inclusive of Victoria, South Australia, New South Wales and Queensland.

Figure 10.3 also shows the change in the average cost of goods sold by jurisdiction. These followed a similar pattern to pricing, with key results being:

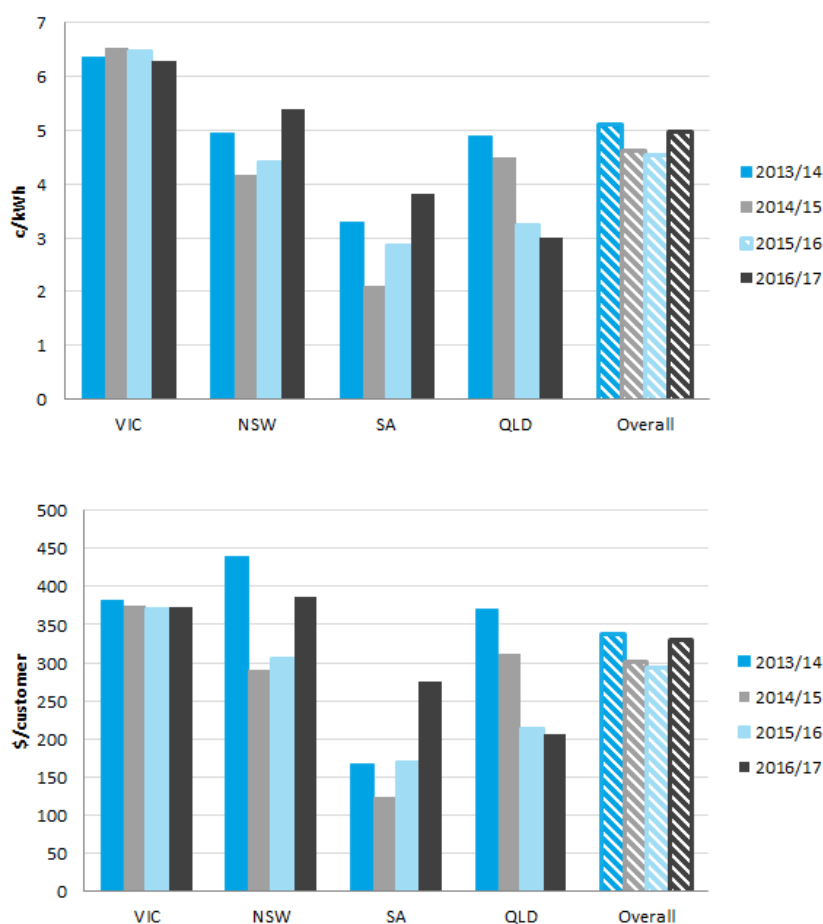
- As with pricing, South Australia had the highest cost of goods sold in 2016/17 at 29 cents per kWh. South East Queensland was next at 26 cents, with Victoria and New South Wales both at 21 cents.
- There were increases in the cost of goods sold from 2015/16 to 2016/17 in all jurisdictions except South East Queensland which remained unchanged:
 - The cost of goods sold rose by 10 per cent in South Australia, six per cent in New South Wales, two per cent in Victoria, and five per cent across the examined jurisdictions.

10.2.2 Changes in retailer margins by jurisdiction

Figure 10.3 shows the average gross margin achieved by the Big 3 retailers in the period 2013/14 to 2016/17 on a cents per kWh and dollar per customer basis. Notable results on a cents per kWh basis in Figure 10.3 below include:

- Victoria remains the jurisdiction with the highest gross margin, at 6 cents per kWh, even noting that the average gross margin decreased by three per cent from 2015/16 to 2016/17. This result is consistent with estimates of gross margins from the ACCC and the Thwaites review.⁴¹⁷
- South Australia had the largest increase in average gross margin from 2015/16 to 2016/17, at 33 per cent, followed by New South Wales with a 22 per cent increase.
- The average gross margin in the same period decreased by eight per cent in South East Queensland. It also has the lowest actual margin of the jurisdictions examined, at three cents per kWh.

Figure 10.3 Retailer data: Big 3 gross margins by jurisdiction



Source: Confidential data provided by retailers. Note: annual data for one retailers is by calendar year. Price shown is the weighted-average price paid across small customers based on customer numbers. Overall data set is inclusive of Victoria, South Australia, New South Wales and Queensland. Price shown is the weighted-average price paid across small customers based on customer numbers.

⁴¹⁷ Thwaites J., Faulkner P., and Mulder T., 2017 *Independent review into the electricity and gas retail markets in Victoria*, August 2017, Victorian Government, Melbourne.

The lower chart in Figure 10.3 shows the gross margin in terms of dollars per customer. Retailers will usually focus more on this metric than on the unitised measure of the margin per kWh, as it accounts for customer consumption and therefore provides a more informative indicator of customer value. Key results include:

- New South Wales had the highest average gross margin in 2016/17, at \$386 per customer. This represented an increase of 21 per cent from 2015/16.
- Victoria had the next highest average gross margin in 2016/17, at \$373 per customer. This represented a one per cent increase from 2015/16.
- The average gross margin per customer in South Australia in 2016/17 was \$274. This represented an increase of 38 per cent from the year before, which was the highest increase across the jurisdictions examined.
- The average gross margin per customer in South East Queensland in 2016/17 was \$205, a decrease of four per cent from 2015/16.

10.3 Gross margins, pricing regulation and innovation

10.3.1 Customer acquisition and retention costs

Competitive retail energy markets require retailers allocate resources to maintaining and growing their customer base. One of those key costs is in acquiring and retaining customers, which is a component of the cost of goods sold category discussed in section 10.2.1.

There has been recent focus on the impact that competition has had on customer acquisition and retention costs in the electricity sector. Related to this, in this year's retailer survey in chapter 3, retailers raised concerns about the increasing cost of comparator sites. In particular, how they were raising their costs of competing and acquiring customers.

The Thwaites Review and the Grattan Institute's report on 'price shock' both noted that retention and acquisition costs are increasing in Victoria, and because consumers are unable to exit the electricity market, there is no constraint on retailers to reduce their margins.⁴¹⁸ This, and other concerns, led the Thwaites Review to recommend the introduction of a BSO in Victoria.⁴¹⁹

The Victorian Government has since announced that it will further analyse the scope of a BSO. It has requested that the ESC develop a methodology for a 'reference price BSO' to inform the government's consideration of the recommendation for a BSO.⁴²⁰

⁴¹⁸ Thwaites J., Faulkner P., and Mulder T., 2017 *Independent review into the electricity and gas retail markets in Victoria*, August 2017, Victorian Government, Melbourne, and Wood T., Blowers D., and Moran G., 2017, *Price shock: is the retail electricity market failing consumers?*, Grattan Institute, Melbourne, 2017.

⁴¹⁹ Thwaites J., Faulkner P., and Mulder T., 2017 *Independent review into the electricity and gas retail markets in Victoria*, August 2017, Victorian Government, Melbourne.

⁴²⁰ Department of Environment, Land, Water and Planning, *Victorian Government Interim Response – Bipartisan Independent Review of the Electricity and Gas Retail Markets*, March 2018, Victoria State Government, Melbourne pp.2-4.

10.3.2 Price re-regulation and innovation

The Grattan Institute notes that re-regulation of prices would reduce the opportunity for innovation in the market.⁴²¹ The Grattan Institute is of the view that any re-regulation of prices, or a cap placed on acquisition costs, would not allow a retailer to recover the costs of new and innovative products coming onto the market, such as those outlined in chapter 7.⁴²² In particular, insufficient profit margin for new entrants could reduce the incentive for genuine innovation at a time when technology make innovation a real possibility.⁴²³

Further, KPMG released a report that analysed international retail market practices, including observations on the trends and drivers of retailer margins, as a supplementary report to the Thwaites Review.⁴²⁴ Amongst other findings, KPMG found that there was a somewhat positive correlation between the level of 'diversity' or innovation and the size of gross margins, because choice requires new entrants and an ability to go beyond just low prices.⁴²⁵ For example, in France, where regulated prices and margins are low, the scale and speed of innovation lags behind other dynamic markets.⁴²⁶ It also found that jurisdictions that support customer participation in the market generally have higher margins and higher levels of price dispersion, but are more likely to be flexible and responsive to developments that will provide value to customers.⁴²⁷

10.3.3 Assessment of margins analysis

Due to data limitations, the AEMC considers it would be premature to draw firm conclusions from the gross margin analysis. The Commission believes these issues do warrant further investigation. As mentioned earlier, the ACCC's inquiry into residential electricity prices is better placed to shed further light on these issues by exploring the components of gross margins for a more representative sample of retailers.

⁴²¹ Wood T., Blowers D., and Moran G., 2017, *Price shock: is the retail electricity market failing consumers?*, Grattan Institute, Melbourne, 2017.

⁴²² *ibid.*

⁴²³ *ibid* p. 33.

⁴²⁴ KPMG, *Energy retail markets - An international review - A report for the Victorian Department of Environment, Land, Water and Planning*, April 2017, KPMG, Melbourne p. 1

⁴²⁵ *ibid* p. 132.

⁴²⁶ *ibid.* p. 66.

⁴²⁷ *ibid* p. 9.

Abbreviations

2017 Review	<i>2017 AEMC Retail Energy Competition Review</i>
ACCC	Australian Competition and Consumer Commission
ACL	Australian Competition Law
ACT	Australian Capital Territory
AEMC or Commission	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AFMA	Australian Financial Markets Association
ATA	Alternative Technology Association
BNEF	Bloomberg New Energy Finance
BSO	Basic Service Offer
C&I	Commercial and industrial
CDR	Consumer Data Right
CEC	Clean Energy Council
COAG	Council of Australian Governments
CPRC	Consumer Policy Research Centre
DER	Distributed energy resources
DHS	Department of Human Services
DNSP	Distribution network service providers
DOD	Depth of discharge
DVA	Department of Veteran Affairs
EBITDA	Earnings before interest, tax, depreciation and amortisation
ECA	Energy Consumer Australia
ECA Survey	Energy Consumers Sentiment Survey
Embedded Networks Review	<i>Review of regulatory arrangements for embedded networks</i>
ESB	Energy Security Board
ESC	Essential Services Commission
ESCOSA	Essential Services Commission of South Australia

EVA	Economic value add
EWON	Energy and Water Ombudsman of New South Wales
EWOQ	Energy and Water Ombudsman Queensland
EWOSA	Energy and Water Ombudsman South Australia
EWOV	Energy and Water Ombudsman Victoria
FCAS	Frequency control ancillary services
HHI	Herfindahl-Hirschman Index
Guarantee	National Energy Guarantee
GJ	Gigajoule
GW	Gigawatt
GWh	Gigawatt hour
IEA	International Energy Agency
IPART	Independent Pricing and Regulatory Tribunal
KW	Kilowatt
KWh	Kilowatt hour
LCOE	Levelised cost of electricity
LNG	Liquified natural gas
MSATS	Market Settlement and Transfer Solutions
MW	Megawatt
MWh	Megawatt hour
NECF	National Energy Customer Framework
NEM	National Energy Market
NERL	National Energy Retail Law
NERR	National Energy Retail Rules
NPV	Net Present Value
NSW	New South Wales
OTC	Over-the-counter
PIAC	Public Interest Advocacy Centre
PPA	Power Purchase Agreement
QCA	Queensland Competition Authority

QLD	Queensland
ROI	Return on investment
RPIG	Retail Pricing Information Guidelines
RQ	Regional Queensland
SA	South Australia
SAPN	South Australian Power Network
SEQ	South East Queensland
Small Business survey report	<i>2018 Retail Competition Review - Small Business Survey Report</i>
SPC	NSW Social Programs for Energy Code
STCs	Small-scale Generation Certificates
Tas	Tasmania
Thwaites Review	Victorian Government's Review of Electricity and Gas Markets
TJ	Terajoule
TNSP	Transmission network service provider
UTP	Uniform Tariff Policy
Vic	Victoria
WACC	Weighted Average Cost of Capital

A 2018 COAG Terms of Reference

Figure A.1 Retail Energy Competition Review terms of reference

09 JAN 2014



THE HON IAN MACFARLANE MP

MINISTER FOR INDUSTRY

PO BOX 6022
PARLIAMENT HOUSE
CANBERRA ACT 2600

Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

RECEIVED 15 JAN 2014

Dear Mr Pierce *Iohn*

As you are aware, Australian governments have committed under the Australian Energy Market Agreement (AEMA) to remove retail energy price regulation where effective competition can be demonstrated. The Australian Energy Market Commission (AEMC) is tasked under the AEMA with responsibility for assessing the state of retail competition across jurisdictions within the National Electricity Market (NEM).

In December 2012, the Standing Council on Energy and Resources (SCER) and the Council of Australian Governments agreed to revise the AEMC's existing approach to competition reviews. As such, the attached revised Terms of Reference were developed by SCER to underpin a revised focus of the reviews on the state of competition across jurisdictions within the NEM with scope for more detailed jurisdiction-specific advice, if agreed, by the AEMC.

To support this approach the AEMA was amended in December 2013 to remove prescriptive elements associated with the existing approach which are focused on individual jurisdictional reviews.

This revised approach to competition reviews is to be applied annually from 2014 onwards. To guide the AEMC in this approach in future competition reviews, please find attached the Terms of Reference that supersede the Statement of Approach for the AEMC's reviews. The Terms of Reference will remain in place for the AEMC's reporting on an ongoing basis from 2014 until such time as directed otherwise by SCER.

Yours sincerely,

Ian Macfarlane
Ian Macfarlane

Phone: (02) 6277 7070 Fax: (02) 6273 3662

B Summary of previous recommendations

Table B.1 Summary of previous recommendations

Year	Recommendations
2014	The Commission recommended that jurisdictions remove energy retail price regulation where competition is effective.
	The Commission recommended that jurisdictions ensure concession schemes are delivering on their intended purpose in an efficient and targeted way.
	The Commission recommended that jurisdictions continue to harmonise regulatory arrangements across jurisdictions to minimise costs, including implementing the National Energy Customer Framework.
2015	The Commission recommended that jurisdictions remove energy retail price regulation where competition is effective.
	The Commission recommended that jurisdictions consider tailored communications to different audiences as set out in the AEMC's consumer engagement blueprint. ⁴²⁸ Including a national integrated campaign to provide information on price comparison tools and consumer protections; improve and explain government price comparator sites; and give additional support to vulnerable consumers.
	The Commission recommended that jurisdictions ensure concession schemes are delivering on their intended purpose in an efficient and targeted way.
	The Commission recommended that jurisdictions continue to harmonise regulatory arrangements to reduce the long term costs of competing across jurisdictions.
	The Commission recommended that jurisdictions implement the recommendations of the AEMC's review of electricity customer switching to improve the accuracy and timeliness of the customer transfer process.

⁴²⁸ Prepared for the NSW Government, however recommendations are applicable in other jurisdictions. Australian Energy Market Commission, *Review of Competition in the Retail Electricity and Natural Gas Markets in New South Wales, Supplementary Report: Increasing consumer engagement*, AEMC, 31 October 2013, Sydney.

Year	Recommendations
2016	The Commission recommended that jurisdictions continue to phase out retail price regulation for electricity and natural gas where effective retail competition can be demonstrated, as agreed under the Australian Energy Market Agreement.
	The Commission recommended that jurisdictions coordinate the development of NEM-wide awareness and engagement programs to make it easier for customers to access the best options for their circumstances and improve customer confidence in the energy markets.
	The Commission recommended that jurisdictions review concession policies to assess opportunities to better target them to customers most in need and to harmonise their structure across jurisdictions, where substantive differences exist.
	The Commission recommended that jurisdictions continue to harmonise regulatory arrangements to reduce the long-term costs of new businesses or retailers competing across jurisdictions.
2017	The Commission recommended that ECA in partnership with the jurisdictions develops a broad information program that would support consumer awareness and confidence in the options that are available to manage energy bills.
	The Commission recommended that the AER should be resourced to run an effective awareness campaign of their Energy Made Easy website and are resourced to maintain and develop the site.
	The Commission recommended that the AER considers opportunities to improve the information provided by retailers to consumers related to the comparison of retail market offers as well as the AER considers opportunities to improve the transparency of information provided to consumers in relation to expiring fixed benefit periods in market offers.
	The Commission recommended that retailers and distributors make it easier and limit delays for consumers (and their agents) to access their metering data. In particular, retailers and distribution network businesses must develop streamlined arrangements for obtaining informed consent from consumers to the provision of metering data to their authorised representatives. The work by ECA and electricity distribution network businesses on streamlining information requirements from consumers and their agents should continue.
	The Commission recommended that retailers, consumer advocates and jurisdictions assist in transitioning vulnerable consumers, particularly those on hardship plans or experiencing payment difficulties, away from higher priced standing offers or market offers with expired fixed benefit periods.

Year	Recommendations
	The Commission recommended that COAG Energy Council write to COAG and the relevant jurisdictions to review the application of their energy concession schemes with a strategy on awareness of energy concession schemes among different consumer segments.
	The Commission recommended that jurisdictions to harmonise their energy customer protection arrangements so that barriers and costs for traditional and new retailers who operate across the NEM are minimised. To facilitate this work, COAG Energy Council request the AEMC to provide advice on the existing suite of modifications that have been made by jurisdictions to the NECF and the differences between NECF jurisdictions and Victoria. This program of work should be completed within two years.
	The Commission recommended that COAG Energy Council should continue to consider how the NECF can be reformed given the diversity of new retailers, service providers and product and service offering available in the competitive retail energy market.
	The Commission recommended that industry develops a credible survey to address the lack of data for electricity trading hedging products. In the absence of industry action, the AEMC will consider, as part of its G20 over-the-counter derivatives review, whether electricity OTC products should continue to be exempt from derivative trade reporting requirements.

C List of active retailers

Retailer	NEM		OVERAL		SE QLD		RQLD		VIC		NSW		ACT		SA		TAS	
	Electricity	Gas	Electricity	Gas	Electricity	Gas	Electricity	Gas	Electricity	Gas	Electricity	Gas	Electricity	Gas	Electricity	Gas	Electricity	Gas
1st Energy			STATE															
ActewAGL*																		
AGL																		
Alinta Energy			STATE								STATE							
amaysim Energy	NEW	NEW	NEW						NEW	NEW	NEW	NEW			NEW			
Aurora Energy																		
BlueNRG																		
Click Energy													STATE					
Commander Power & Gas																		
CovaU																		
Diamond Energy																		
Dodo Power & Gas																		
Energy Australia																		
Energy Locals	NEW		NEW								NEW							
Enova Energy																		
Ergon Energy																		
ERM Business Energy																		
GloBird Energy																		
Lumo Energy																		
Mojo Power																		
Momentum Energy																		
Next Business Energy			STATE															
Origin Energy																		
People Energy																		
Pooled Energy																		
Powerdirect																		
Powershop			STATE															
QEnergy																		
Red Energy																STATE		
Sanctuary Energy																		
Simply Energy																		
Sumo		NEW								NEW								
Tango Energy																		
TasGas																		
TOTAL BRANDS	33	16	21	2	3	2	25	14	28	12	5	3	19	6	2	2	2	2
TOTAL COMPANIES	28	13	18	2	3	2	21	12	23	9	5	3	15	6	2	2	2	2
NEW ENTRANTS - NEM	2	2	2	-	-	-	1	2	2	1	-	-	1	-	-	-	-	-
NEW ENTRANTS - STATE	-	-	4	-	-	-	-	-	-	3	-	-	-	1	-	-	-	-

Electricity brand
Gas brand
NEW New to NEM
STATE New to State

AGL Energy
Snowy Hydro
amaysim Energy
M2 Energy

D Distributed energy resources financial modelling

As reported in chapter 7, the AEMC investigated the financial implications of installing solar PV and battery storage technology in the residential context through an illustrative financial modelling exercise. To do this, a set of assumptions was compiled and used as inputs for the *Sunulator* excel model.⁴²⁹ The *Sunulator*, a model developed by the ATA, uses solar data from the Bureau of Meteorology and its own survey of solar households to calculate the financial implications for an investment in solar and/or batteries.⁴³⁰ This appendix outlines:

- input assumptions
- key findings
- the full set of modelling results
- results from the sensitivity analysis.

The aim was to gain an insight into the current state of DER in the Australian residential context, especially regarding the economics and financial outcomes for consumers.

D.1 Modelling assumptions

A number of assumptions were used as the inputs into the *Sunulator* model, including:

- consumer household
- the household consumption levels and tariffs
- the load profile of the households
- economics and grid prices
- solar PV array performance and costs
- battery storage performance and costs.

These inputs assumptions are explored below.

Household assumptions

The type of household that was assumed for this modelling was taken to have the features as described below.

- A good roof for production, that:
 - is north-facing
 - has a 30 degree tilt
 - is unshaded
 - is able to fit all the panels required for each case modelled.

⁴²⁹ The *Sunulator* model is free and publicly available at: www.ata.org.au/ata-research/sunulator.

⁴³⁰ The ATA is a not-for-profit organisation that looks to help enable people live sustainably.

- Common 'double peak' load shape typically of a working (and/or with school-aged children) household.⁴³¹
- Electricity-only household. That is, no gas is used at the premises.
- No controlled load circuit or tariff. That is, the hot water heater and other such high energy use appliances are on the main household circuit and tariff.
- The household is located in the Endeavour distribution network, in postcode 2515 (Thirroul). As such, the household's electricity consumption is assumed to be in line with the AER Bill Benchmarks Electricity usage for New South Wales climate zone 5.⁴³²

Household profiles

Table D.1 Household consumption levels and tariffs

Consumption level ⁴³³		Block tariff	Time-of-use tariff	
		Rate ⁴³⁴	Rate ⁴³⁵	Time blocks ⁴³⁶
Zero- no consumption All electricity generation from the solar array is exported to the grid and there is no consumption of grid or solar electricity by the household.		Supply: 91.18 cents/day Feed-in tariff: 9.00 cents/kWh exported (all inclusive of GST)	Supply: 89.26 cents/day Feed-in tariff: 11.30 cents/kWh exported (all inclusive of GST)	
Low- 1 person household	Summer- 790 kWh	Supply: 91.18 cents/day	Supply: 89.26 cents/day	Weekdays: • Peak:

⁴³¹ Also commonly referred to as the 'double hump' load profile shape. As described by Solar Choice, *how to get the most out of your solar system part 2: What's your electricity pattern*, available at: www.solarchoice.net.au/blog/how-to-get-most-solar-pv-system-pt-2-electricity-usage-patterns, viewed 20 April 2018.

⁴³² On advice from the ATA, it was noted that Endeavour Energy has a representative Time-of-use tariff unlike some distribution network service provider regions, such as Ausgrid, which can have a very high peak demand charge that is not representative of the typical Time-Of-Use tariffs present in the NEM. A noteworthy point is that the networks that have higher peaks (and higher tariffs generally) such as Ausgrid and SAPN would have a better business case than Endeavour Energy generally speaking. Note: the inbuilt historical Sydney weather file was used.

⁴³³ AER's *Energy Consumption Benchmarks Electricity and Gas Report*, 2017. Prepared by ACIL Allen Consulting for the AER. The data is from New South Wales Climate zone 5, page 59.

⁴³⁴ Origin's *Billsaver* tariff, offer ID is ORI458717MR. This was the median block solar residential market offer by estimated bill amount available on Energy Made Easy for the Endeavour network. Accessed 2 March 2018. Conditional discounts were not applied.

⁴³⁵ Simply Energy's *NSW Simply Save 10* tariff, off ID is SIM452815MR. This was the median time-of-use solar residential market offer by estimated bill amount available on Energy Made Easy for the Endeavour network. Accessed 2 March 2018. Conditional discounts were not applied.

⁴³⁶ Endeavour Energy network time-of-use tariff time blocks

Consumption level ⁴³³		Block tariff	Time-of-use tariff	
		Rate ⁴³⁴	Rate ⁴³⁵	Time blocks ⁴³⁶
Annual total usage: 3388 kWh Daily average usage: 9.3 kWh	Autumn- 798 kWh	All usage: 29.80 cents/kWh Feed-in tariff: 9.00 cents/kWh exported (all inclusive of GST)	Usage (cents/kWh): • Peak: 38.88 • Off-peak: 18.32 • Shoulder: 28.40. Feed-in tariff: 11.30 cents/kWh exported (all inclusive of GST)	1pm-8pm • Shoulder: 7am-1pm, 8pm-10pm • Off-peak: 10pm-7am Weekends and public holidays: • Shoulder: 7am-10pm • Off-peak: 10pm-7am
	Winter- 1011 kWh			
	Spring- 789 kWh			
Medium- 3 person household Annual total usage: 5396 kWh Daily average usage: 14.8 kWh	Summer- 1270 kWh			
	Autumn- 1268 kWh			
	Winter- 1622 kWh			
	Spring- 1236 kWh			
High- 5 or more person household Annual total usage: 7530 kWh Daily average usage: 20.6 kWh	Summer- 1785 kWh			
	Autumn- 1795 kWh			
	Winter- 2229 kWh			
	Spring- 1721 kWh			
Very high- 5 or more person household with a swimming pool Annual total usage: 11048 kWh Daily average usage: 30.3 kWh	Summer- 2770 kWh			
	Autumn- 2652 kWh			
	Winter- 3120 kWh			
	Spring- 2506 kWh			

Household load profile

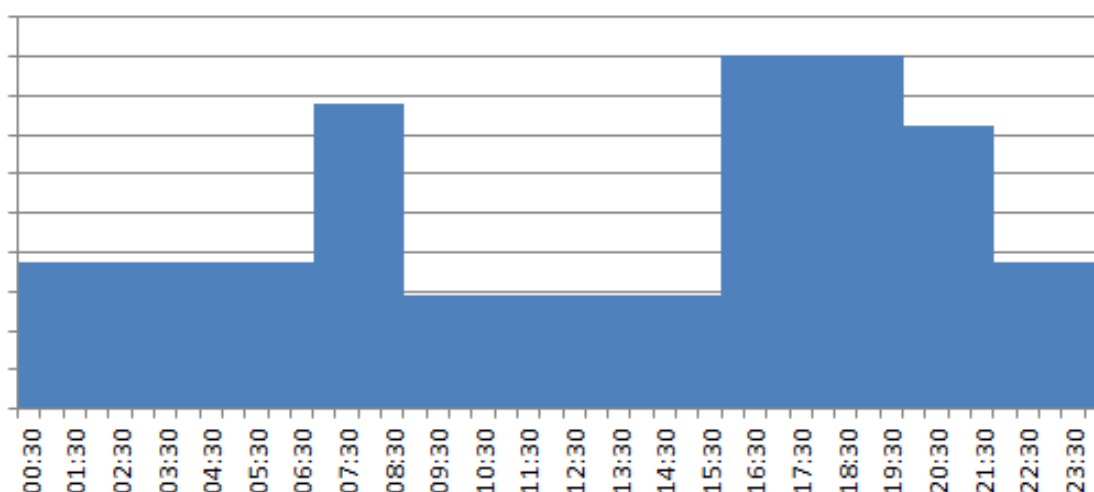
The load profile assumed by the modelling, as previous discussed, was assumed to be a typical 'double peak' household. The 'double peak' household shows the energy usage most typically used by working families and professionals with a peak in the morning, a larger longer peak in the evening with a dip in energy usage when there is no one home. This is reflected in Table D.2 below and shown graphically in Figure D.1. As

household consumption varies between the working week and the weekends as well as public holidays, Table D.3 shows the correction factor applied to these days as reflected by the way they are put into the Sunulator model.

Table D.2 **Weekday consumption profile based on a typical double peak household**

Period	Start time	End time	Energy percentage of daily energy consumption used in the period	Hours in the period
Pre-work/school	07:00	09:00	13%	02:00
Day	09:00	16:00	17%	07:00
Evening	16:00	20:00	30%	04:00
Night	20:00	22:00	12%	02:00
Sleep	22:00	07:00	28%	09:00

Figure D.1 **Weekday consumption profile of the household**



Source: Sunulator, AEMC analysis/inputs into model. Note: this shows a typically 'double peak' consumption profile of a working couple and/or family.

Table D.3 **Weekend and public holiday consumption weekday correction factors**

Day type	Sunulator option input	Percentage of weekday usage factor
Saturday	WeekdayFactor	80%
Sunday	WeekdayFactor	80%
Public holiday	WeekdayFactor	80%

Economic and grid price assumptions

The economic assumptions made inherently by the Sunulator model and by the Commission as inputs for the Sunulator model, are detailed below.

- Real pre-tax weighted average cost of capital (WACC) at three per cent.
- Annual residential retail electricity prices assumed were from the New South Wales projections in the AEMC's *2017 Residential Electricity Price Trends - Final Report* in real terms. That is:
 - 10.2 per cent increase for 2017/18
 - 5.9 per cent decrease for 2018/19
 - 7.7 per cent decrease for 2019/20
 - a zero per cent, or flat, price change for the remaining years from the 2020 price.
- The ROI is calculated using the internal rate of return over the 20 year time frame's costs and benefits.
- Taken from ATA's *basic solar advice* assumptions (which utilises Sunulator for the advice):
 - 20 year time frame
 - the ROI is calculated using the internal rate of return method for the costs and benefits over the time frame
 - bill impacts are calculated for each interval by netting off generation and consumption and battery charge and discharge, and applying the selected tariffs
 - grid electricity tariffs are the standard median offer for the Endeavour network for that consumption level, not the cheapest or the most optimal for each consumption level and scenario (block rate or time-of-use tariff).
- There is no residual asset value (solar array, battery, inverter) included in the modelling results.⁴³⁷

Solar PV array assumptions

The assumptions below are the inputs for the Sunulator model relating to the solar PV array's performance, system costs and size.

- Solar generation is calculated for each interval, based on sunbeam angle to the solar panels and Bureau of Meteorology sunshine data for the household location over a typical meteorological year

⁴³⁷ ATA's Sunulator is unable to account for residual asset value. However, the ATA and AEMC regard this as a fair assumption regardless due to the extremely low value the assets being examined would hold in the horizon year.

- A panel to socket efficiency of 87 per cent is used. This is 13 per cent efficiency loss is compiled of:
 - two per cent soiling
 - two per cent mismatching effects
 - two per cent due to wiring
 - 0.5 per cent connection losses
 - two per cent light-induced degradation
 - four per cent inverter losses.⁴³⁸
- Assumed performance warranty equal to the horizon year (20 years) and hence product replacement falls outside of the 20 year time frame of modelling
- PV panel performance degrades 0.5 per cent per year.
- 3kW, 6kW and 9kW system size is to be analysed for each consumption category.⁴³⁹
- 3kW system capital cost is \$3,870; 6kW system capital cost is \$6,320 and 9kW system capital costs is \$10,180. These prices are in Australian dollars, after Small-scale Technology Certificates (STCs) and real as of 2017/18.⁴⁴⁰
- PV inverter replacement occurs after 10 years at a price equal to 20 per cent of the solar system in 2027.⁴⁴¹ Out-of-pocket expensive is \$1,379/kW installed; therefore replacement cost of inverter in 2027 is \$ 275.80/kW.⁴⁴²
- It is assumed there is no maintenance costs as tilts greater than 10 degrees self-clean when it rains, to some extent.⁴⁴³ With the panel modelled at 30 degrees, it is assumed that there is no maintenance/ cleaning cost in the model.

Battery storage assumptions

The assumptions below are the inputs for the Sunulator model which relate to the battery storage's performance, system costs and sizing.

⁴³⁸ These are the default assumption of the Sunulator model and was taken from the ATA Sunulator User Guide.

⁴³⁹ Analysis on Australian PV Institute published data on Monthly installation by size category showed that the average size installation was 5.95 kW with the most common installation was 4.5-6.5kW. From this 3kW, 6kW and 9kW system sizes were chosen to be representative of the common PV size installed and a factor either way to gauge the breath of results.

⁴⁴⁰ February 2018 Residential solar power system pricing guide from *SolarChoice*. Sydney prices used, 6kW system price is an Interpolation of 5kW and 7kW system prices. 9kW system was found by interpolating 7kW and 10kW systems and the average of those values was taken. Available at: www.solarchoice.net.au/blog/solar-power-system-prices. Accessed on 2/03/2018.

⁴⁴¹ The price of the inverter/s (currently) makes up approximately 20% of the price of a solar system. From: www.solarquotes.com.au/inverters/.

⁴⁴² Projected costs taken from Bloomberg New Energy Finance's Australia behind-the-meter PV and storage forecast Insight by Annabel Wilson on 22nd February 2017.

⁴⁴³ ATA's Sunulator Users Guide

- Lithium batteries are assumed to have:
 - 10 year lifespan⁴⁴⁴
 - 80 per cent operational depth of discharge (DOD)
 - 100 per cent allowable maximum DOD
 - charging and discharging efficiency of 95 per cent.
- Sized to be investigated are 6kWh and 10kWh. The average size of batteries installed in 2017 was 6.4kWh and the trend is towards 8-10kWh and as such our two sizes to investigate captures both these data points (the average and the trend).⁴⁴⁵
- Price for Australian behind-the-meter storage in 2017 inclusive of inverter/charger, installation costs and balance of systems considerations is \$1,470/kWh.⁴⁴⁶ Projection for 2027 replacement cost is \$582/kWh. Therefore, 6kWh battery is \$8,820 in 2017 and \$3,492 in 2027. Also, 10kWh battery is \$14,700 in 2017 and \$5,820 in 2027. All prices are in Australian dollars.
- Degradation of battery capacity is from 100 per cent to 70 per cent at warranty end (10 years).
- Batteries charge only from solar and operate to minimise grid import and export. State of charge is tracked over the whole year.⁴⁴⁷

D.2 Key findings

Solar PV systems

The key findings discovered from the modelling results which relate to solar PV systems are discussed below.

- Time-of-use tariff structures always returned a higher NPV and ROI for the same solar PV investment for consumers than the same scenario on a block tariff. The discounted payback period was typically a year more for a solar PV system of any size on a block tariff than on a time-of-use tariff. The discounted payback period was typically a year more for a solar PV system of any size on a block tariff than on a time-of-use tariff.
- If the capital expenditure is available, it is more beneficial to install a higher capacity solar system. For example, a 9kW solar PV system always obtained a higher NPV in the 20 year time frame than a 3kW or 6kW solar PV system for the

⁴⁴⁴ This is equal to the typical operational warranty of lithium-ion battery in today's market.

⁴⁴⁵ Ecogeneration article discussing the SunWiz Battery Market Report 2017. Available at: www.ecogeneration.com.au/battery-installs-set-to-triple-in-2017-sunwiz/. Accessed on 2/03/2018.

⁴⁴⁶ Capital costs taken from Solar Choice: Home Battery Costs for January 2018 which give indicative prices for 2017. Available at: www.solarchoice.net.au/blog/home-solar-battery-storage-prices-january-2018. Accessed on 7/3/2018.

⁴⁴⁷ Taken from ATA's *Basic Solar Advice* results sheet assumptions

same consumption level. This is because the incremental change in capital expenditure spent to increase the size of the solar PV system is offset by the higher savings made by the higher electricity production from the larger system over the project time line. The higher savings are driven by the feed-in tariff received by the system owner by exporting excess (non-self-consumed) electricity to the grid.

- A premise without any internal consumption of energy with a solar PV system installed can obtain a positive NPV and ROI for that investment in the 20 year time frame modelled. This is due to the trend of decreasing capital expenditure required for solar PV systems (dollar per kW) observed over the past decade, as shown in Figure 7.3 in Chapter 7. The low capital costs result in a lower levelised cost of electricity (LCOE) outcomes for present day solar PV systems. This was modelled to be approximately seven cents per kWh on average. This is lower than the current (non-government subsidised) feed-in tariff being offered by New South Wales at approximately 11 cents per kWh.⁴⁴⁸

Hence, these systems are able to sell all of their electricity produced to the grid for a profit in relation to its installation costs (as reflected by the LCOE) resulting in a higher ROI. This is a major change in the way solar system installations can be financially justified as previously the financial benefit of these investments from the avoidance of higher retail tariff prices of 20 to 60 cents per kWh by self-consuming the electricity generated.

- If a consumer is limited by the capital expenditure they have available for a DER investment, a smaller solar system size is still a good investment to make. 3kW and 6kW solar PV system resulted in ROI at a higher percentage than that of a 9kW system (despite resulting in a lower NPV). That is, the consumer will gain a higher premium return for their initial investment for a smaller solar PV system (3kW or 6 kW) than the premium return gained from investing in a larger solar PV system (6kW or 9kW).
- All solar PV systems, regardless of size and the level of household electricity consumption, had a ROI above 10 per cent. The highest ROI was obtained by a 6kW solar PV system for the very high household electricity consumption level. That is, for a household with 5 or more people with a pool that installed a 6kW solar PV system, the ROI was 23 per cent.
- All solar PV systems, regardless of size and level of household electricity consumption, had a discounted payback period of nine years or less. The fastest discounted payback period was five years and occurred for four scenarios. These were the 6kW solar PV system on time-of-use tariff for the high consumption household, 3kW solar PV system on block and time-of-use tariffs for the very high consumption household, and the 6kW solar PV system on a time-of-use tariff for the very high consumption household.

⁴⁴⁸ IPART has proposed to reduce the feed-in-tariff to around 7 c/kWh from 1 July 2018. If accepted this will change some of the findings of this analysis.

Solar PV and battery storage systems

The key findings from the modelling on combined solar PV and battery storage systems are discussed below.

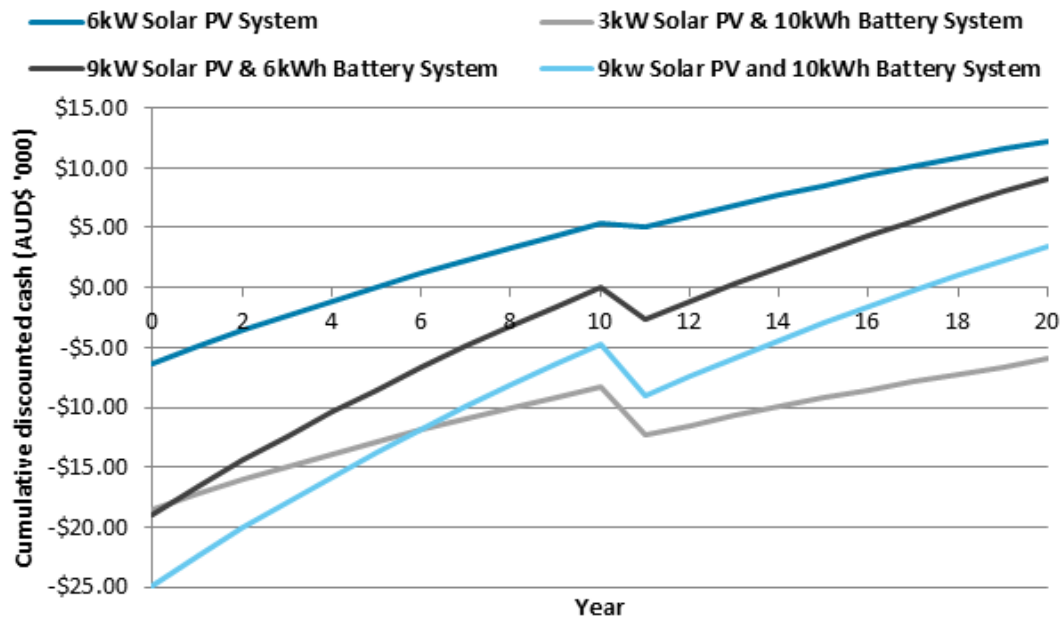
- Solar PV and battery system investments are, currently, not a good investment due to the high capital cost of batteries. This has an incremental negative impact on the investment compared to solar-only PV system investments.
- Combined solar PV and battery systems had a lower NPV and ROI in every scenario than the same case with the same size solar-only system. This reflects the rationale that while batteries can return a positive investment and ROI in a small amount of scenarios; the best investment is currently in a solar-only system.
- The NPV of the system increases with higher self-consumption of solar PV electricity produced. This is because the self-consumed solar generation would otherwise be exported to the grid for the feed-in tariff which values the energy at a lower value than the grid tariff that is avoided by using the battery.
- Larger battery system tended to have a lower ROI at the end of 20 years. This is due to the higher initial capital expenditure, which is not equivalent or better than the savings made.
- Only three of 60 solar PV and battery system scenarios in the AEMC's analysis returned discounted payback periods before the battery's warranty expired (10 years). Large solar systems (6kW and 9kW) and small batteries (6kWh) with high or very high energy consumption level household was the only times it reached the discounted payback period before or simultaneously with the battery warranty.
- 12 of the 60 solar PV and battery system scenarios obtained a ROI of above five per cent in year 20. This includes a battery and inverter replacement in year 10. The battery replacement costs have forecast by BNEF to have a significantly lower capital cost due to the learning curve the battery industry is currently experiencing.
- A small solar PV system (3kW) with a large battery (10kWh) was the poorest investment with negative ROI, discounted payback periods of 30 years or more and NPVs that are -\$5,000 or less. This is due to the low level of battery utilisation occurring over the lifespan of the investment. The low battery utilisation (55 per cent) results in unnecessary capital investment in a battery capacity that is not being used by the household with the small solar system unable to generate sufficient surplus energy to fill the remaining battery storage available. In doing so, the household is still importing the more expensive energy from the grid, whilst having invested in un-used battery storage.

Discounted cash flow of investments

The NPV and ROI calculated by the Sunulator model used a 20 year period. This means there has been a battery and inverter replacement that has occurred in the 10th year at a significantly lower cost than which was used for the initial capital outlay. The reduction in costs used in the modelling is aligned with other projections reported by Jacobs and

JP Morgan. This reduction in costs significantly impacts the discounted cash flow for the owner of the DER, which includes batteries. This analysis makes note that the NPV of the investment is the flow of cash, both positive and negative, of the investment over the lifetime of the assets in real terms inclusive of the discount rate. It highlights that while discounted payback period is a very good metric for consumers to use, it can be flawed in the presentation of the true value of the investment when re-investment of some type is required.

Figure D.2 Discounted cash flow of investment, high consumption household on time-of-use tariff



Source: Sunulator, AEMC analysis and inputs.

As Figure D.2 illustrates, the requirements for re-investment over the 20 year period of the analysis needs to be taken into account in assessing the NPV of the investment.

- For the 6kW solar PV system, the NPV remains positive from around the five-year mark. However, the growth in NPV dips at the ten-year mark, reflecting the need to invest in a replacement inverter.
- In all of the scenarios above involving batteries, the larger reduction in NPV that occurs when the battery also needs to be replaced, extends the period before the breakeven level occurs.

It is possible that in certain circumstances a customer could achieve a positive NPV just before the re-investment requirements, without understanding what the financial impact is of the additional investments on their payback period or overall investment returns.

D.3 Modelling results - data tables

Table D.4 Low consumption household (typically a 1 person dwelling without a pool) modelling results

Consumption level	Item	Annual cost-total (first year)	Annual cost saving (first year)	Business-As-Usual annual cost (first year)	Percentage cost saving (first year)	NPV	Discounted payback period, years	ROI	LCoE, c/kWh
Low Annual total usage: 3388 kWh Daily average usage: 9.3 kWh	BAU_flat	\$1,342							
	3kW_flat	\$743	\$599	\$1,342	44.6%	\$3,896	8	12.8%	7.65
	6kW_flat	\$340	\$1,002	\$1,342	74.7%	\$6,540	8	13.0%	6.44
	9kW_flat	-\$42	\$1,384	\$1,342	103.4%	\$7,485	9	10.4%	6.84
	3kW6kWh_flat	\$441	\$901	\$1,342	67.1%	-\$3,392	30	-0.4%	27.09
	3kW10kWh_flat	\$366	\$977	\$1,342	72.8%	-\$9,934	30	-4.5%	40.04
	6kW6kWh_flat	\$17	\$1,325	\$1,342	98.7%	-\$465	26	2.6%	16.16
	6kW10kWh_flat	-\$60	\$1,402	\$1,342	104.5%	-\$6,989	30	-1.3%	22.63
	9kW6kWh_flat	-\$367	\$1,709	\$1,342	127.3%	\$514	20	3.3%	13.32
	9kW10kWh_flat	-\$443	\$1,785	\$1,342	133.0%	-\$6,026	30	0.0%	17.64
	BAU_TOU	\$1,293							
	3kW_TOU	\$605	\$687	\$1,293	53.2%	\$5,169	7	15.5%	7.65

Consumption level	Item	Annual cost-total (first year)	Annual cost saving (first year)	Business-As-Usual annual cost (first year)	Percentage cost saving (first year)	NPV	Discounted payback period, years	ROI	LCoE, c/kWh
	6kW_TOU	\$107	\$1,186	\$1,293	91.7%	\$9,169	7	16.5%	6.44
	9kW_TOU	-\$370	\$1,663	\$1,293	128.6%	\$11,466	8	13.7%	6.84
	3kW6kWh_TOU	\$348	\$945	\$1,293	73.1%	-\$2,631	30	0.5%	27.09
	3kW10kWh_TOU	\$316	\$976	\$1,293	75.5%	-\$9,831	30	-4.3%	40.05
	6kW6kWh_TOU	-\$102	\$1,445	\$1,293	107.6%	\$1,230	19	3.9%	16.16
	6kW10kWh_TOU	-\$169	\$1,512	\$1,293	112.6%	-\$5,435	30	-0.2%	22.63
	9kW6kWh_TOU	-\$580	\$1,922	\$1,293	143.2%	\$3,527	17	5.1%	13.32
	9kW10kWh_TOU	-\$646	\$1,988	\$1,293	148.1%	-\$3,151	30	1.5%	17.64

Table D.5 Medium consumption household (typically a 3 person dwelling without a pool) modelling results

Consumption level	Item	Annual cost- total (first year)	Annual cost saving (first year)	Business-As-Usual annual cost (first year)	Percentage cost saving (first year)	NPV	Discounted payback period, years	ROI	LCoE, c/kWh
Medium Annual total usage: 5396 kWh Daily average usage: 14.8 kWh	BAU_flat	\$1,941							
	3kW_flat	\$1,255	\$686	\$1,941	35.4%	\$5,082	7	15.4%	7.65
	6kW_flat	\$816	\$1,125	\$1,941	57.9%	\$8,204	7	15.3%	6.44
	9kW_flat	\$417	\$1,523	\$1,941	78.5%	\$9,380	8	12.0%	6.84
	3kW6kWh_flat	\$958	\$983	\$1,941	50.6%	-\$2,284	30	0.8%	27.09
	3kW10kWh_flat	\$833	\$1,108	\$1,941	57.1%	-\$8,172	30	-2.9%	40.04
	6kW6kWh_flat	\$484	\$1,457	\$1,941	75.1%	\$1,322	19	4.0%	16.16
	6kW10kWh_flat	\$302	\$1,638	\$1,941	84.4%	-\$3,796	30	0.8%	22.63
	9kW6kWh_flat	\$80	\$1,861	\$1,941	95.9%	\$2,565	18	4.5%	13.32
	9kW10kWh_flat	-\$112	\$2,053	\$1,941	105.8%	-\$2,410	29	1.8%	17.64
	BAU_TOU	\$1,866							
	3kW_TOU	\$1,095	\$771	\$1,866	41.3%	\$6,303	6	17.9%	7.65
	6kW_TOU	\$562	\$1,304	\$1,866	69.9%	\$10,788	6	18.6%	6.44

Consumption level	Item	Annual cost- total (first year)	Annual cost saving (first year)	Business-As-Usual annual cost (first year)	Percentage cost saving (first year)	NPV	Discounted payback period, years	ROI	LCoE, c/kWh
	9kW_TOU	\$68	\$1,798	\$1,866	96.4%	\$13,318	7	15.3%	6.84
	3kW6kWh_TOU	\$774	\$1,092	\$1,866	58.5%	-\$576	27	2.5%	27.09
	3kW10kWh_TOU	\$718	\$1,148	\$1,866	61.5%	-\$7,429	30	-2.3%	40.04
	6kW6kWh_TOU	\$218	\$1,648	\$1,866	88.3%	\$4,260	16	6.1%	16.16
	6kW10kWh_TOU	\$141	\$1,725	\$1,866	92.5%	-\$2,925	30	1.3%	23.15
	9kW6kWh_TOU	-\$274	\$2,140	\$1,866	114.7%	\$7,379	14	7.1%	12.98
	9kW10kWh_TOU	-\$355	\$2,220	\$1,866	119.0%	\$255	20	3.1%	17.63

Table D.6 High consumption household (typically a 5 or more person dwelling without a pool) modelling results

Consumption level	Item	Annual cost- total (first year)	Annual cost saving (first year)	Business-As-Usual annual cost (first year)	Percentage cost saving (first year)	NPV	Discounted payback period, years	ROI	LCoE, c/kWh
High Annual total usage: 7530 kWh Daily average usage: 20.6 kWh	BAU_flat	\$2,577							
	3kW_flat	\$1,817	\$760	\$2,577	29.5%	\$6,082	6	17.6%	7.65
	6kW_flat	\$1,342	\$1,235	\$2,577	47.9%	\$9,698	6	17.3%	6.44
	9kW_flat	\$921	\$1,656	\$2,577	64.3%	\$11,179	8	13.6%	6.84
	3kW6kWh_flat	\$1,531	\$1,046	\$2,577	40.6%	-\$1,425	29	1.6%	27.09
	3kW10kWh_flat	\$1,430	\$1,146	\$2,577	44.5%	-\$7,646	30	-2.5%	40.04
	6kW6kWh_flat	\$1,007	\$1,569	\$2,577	60.9%	\$2,850	17	5.1%	16.16
	6kW10kWh_flat	\$822	\$1,755	\$2,577	68.9%	-\$2,221	29	1.7%	22.63
	9kW6kWh_flat	\$578	\$1,999	\$2,577	77.6%	\$4,453	16	5.6%	13.32
	9kW10kWh_flat	\$373	\$2,203	\$2,577	85.5%	-\$366	26	2.8%	17.63
	BAU_TOU	\$2,475							
	3kW_TOU	\$1,633	\$842	\$2,475	34.0%	\$7,278	6	20.0%	7.65
	6kW_TOU	\$1,006	\$1,409	\$2,475	56.9%	\$12,229	5	20.5%	6.44
	9kW_TOU	\$549	\$1,926	\$2,475	77.8%	\$15,067	6	16.7%	6.84

Consumption level	Item	Annual cost- total (first year)	Annual cost saving (first year)	Business-As-Usual annual cost (first year)	Percentage cost saving (first year)	NPV	Discounted payback period, years	ROI	LCoE, c/kWh
	3kW6kWh_TOU	\$1,303	\$1,172	\$2,475	47.3%	\$505	20	3.5%	27.09
	3kW10kWh_TOU	\$1,223	\$1,252	\$2,475	50.6%	-\$5,968	30	-1.1%	40.04
	6kW6kWh_TOU	\$686	\$1,789	\$2,475	72.3%	\$6,189	14	7.4%	16.16
	6kW10kWh_TOU	\$551	\$1,924	\$2,475	77.7%	\$480	20	3.3%	22.63
	9kW6kWh_TOU	\$164	\$2,311	\$2,475	93.4%	\$9,128	10	8.1%	13.32
	9kW10kWh_TOU	\$26	\$2,449	\$2,475	99.0%	\$3,478	18	4.6%	17.63

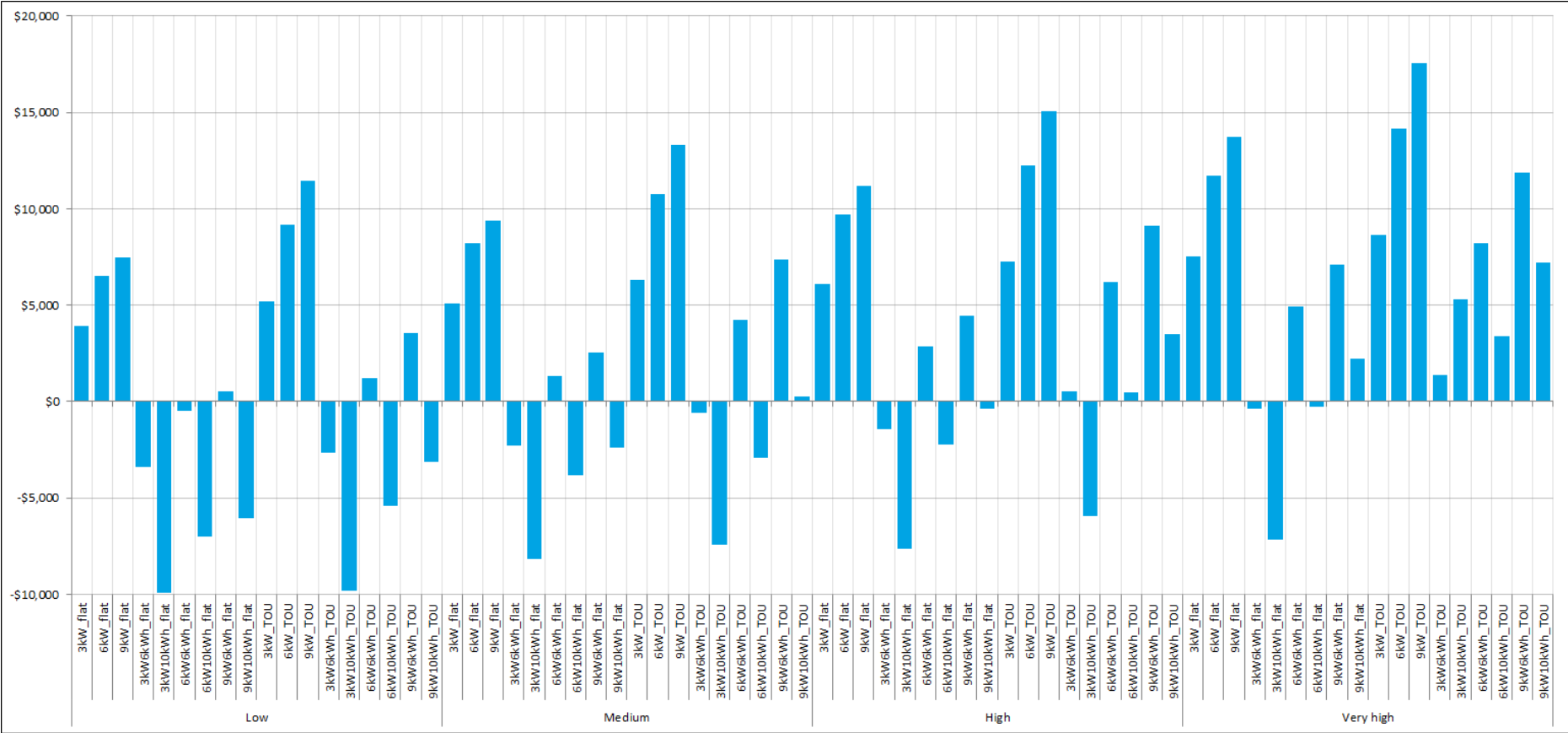
Table D.7 **Very high consumption household (typically a 5 or more person dwelling with a pool) modelling results**

Consumption level	Item	Annual cost- total (first year)	Annual cost saving (first year)	Business-As-Usual annual cost (first year)	Percentage cost saving (first year)	NPV	Discounted payback period, years	ROI	LCoE, c/kWh
Very high Annual total usage: 11048 kWh Daily average usage: 30.3 kWh	BAU_flat	\$3,625							
	3kW_flat	\$2,761	\$864	\$3,625	23.8%	\$7,505	5	20.6%	7.65
	6kW_flat	\$2,241	\$1,384	\$3,625	38.2%	\$11,732	6	19.9%	6.44
	9kW_flat	\$1,782	\$1,843	\$3,625	50.8%	\$13,727	7	15.7%	6.84
	3kW6kWh_flat	\$2,504	\$1,121	\$3,625	30.9%	-\$400	26	2.6%	27.09

Consumption level	Item	Annual cost- total (first year)	Annual cost saving (first year)	Business-As-Usual annual cost (first year)	Percentage cost saving (first year)	NPV	Discounted payback period, years	ROI	LCoE, c/kWh
	3kW10kWh_flat	\$2,445	\$1,180	\$3,625	32.6%	-\$7,180	30	-2.1%	40.04
	6kW6kWh_flat	\$1,905	\$1,720	\$3,625	47.5%	\$4,903	15	6.5%	16.16
	6kW10kWh_flat	\$1,728	\$1,897	\$3,625	52.3%	-\$288	26	2.8%	22.63
	9kW6kWh_flat	\$1,430	\$2,195	\$3,625	60.5%	\$7,110	14	7.0%	13.32
	9kW10kWh_flat	\$1,231	\$2,394	\$3,625	66.0%	\$2,221	19	4.0%	17.64
	BAU_TOU	\$3,479							
	3kW_TOU	\$2,536	\$943	\$3,479	27.1%	\$8,658	5	22.9%	7.65
	6kW_TOU	\$1,927	\$1,552	\$3,479	44.6%	\$14,180	5	23.0%	6.44
	9kW_TOU	\$1,373	\$2,105	\$3,479	60.5%	\$17,529	6	18.7%	6.84
	3kW6kWh_TOU	\$2,241	\$1,238	\$3,479	35.6%	\$1,371	18	4.2%	27.09
	3kW10kWh_TOU	\$2,176	\$1,303	\$3,479	37.4%	-\$5,299	30	-0.6%	40.05
	6kW6kWh_TOU	\$1,539	\$1,940	\$3,479	55.8%	\$8,212	10	8.7%	16.16
	6kW10kWh_TOU	\$1,344	\$2,135	\$3,479	61.4%	\$3,387	17	4.8%	22.63
	9kW6kWh_TOU	\$966	\$2,513	\$3,479	72.2%	\$11,853	10	9.4%	13.32
	9kW10kWh_TOU	\$758	\$2,721	\$3,479	78.2%	\$7,225	15	6.2%	17.64

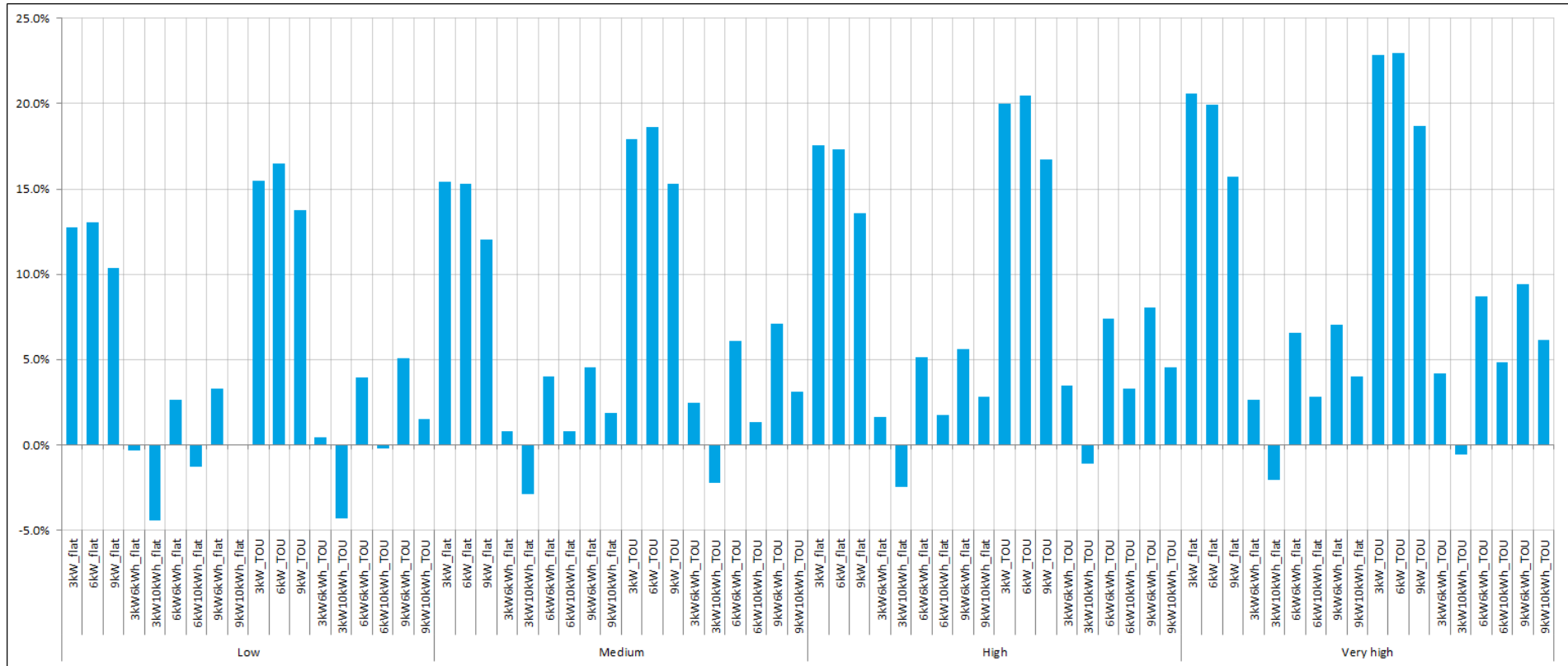
D.4 Modelling results- graphs

Figure D.3 Net present value comparison of all cases modelled



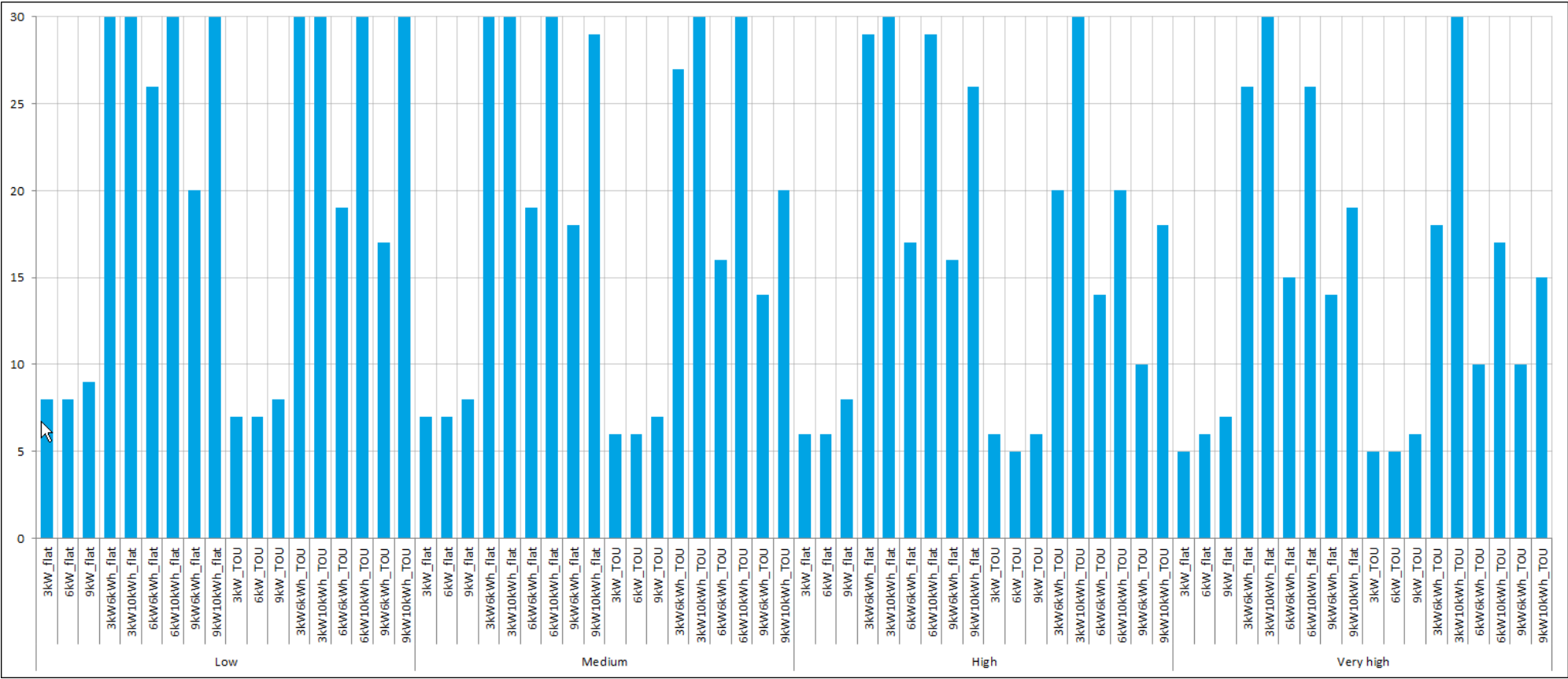
Source: Sunulator, AEMC analysis and inputs.

Figure D.4 Return on investment comparison of all cases modelled



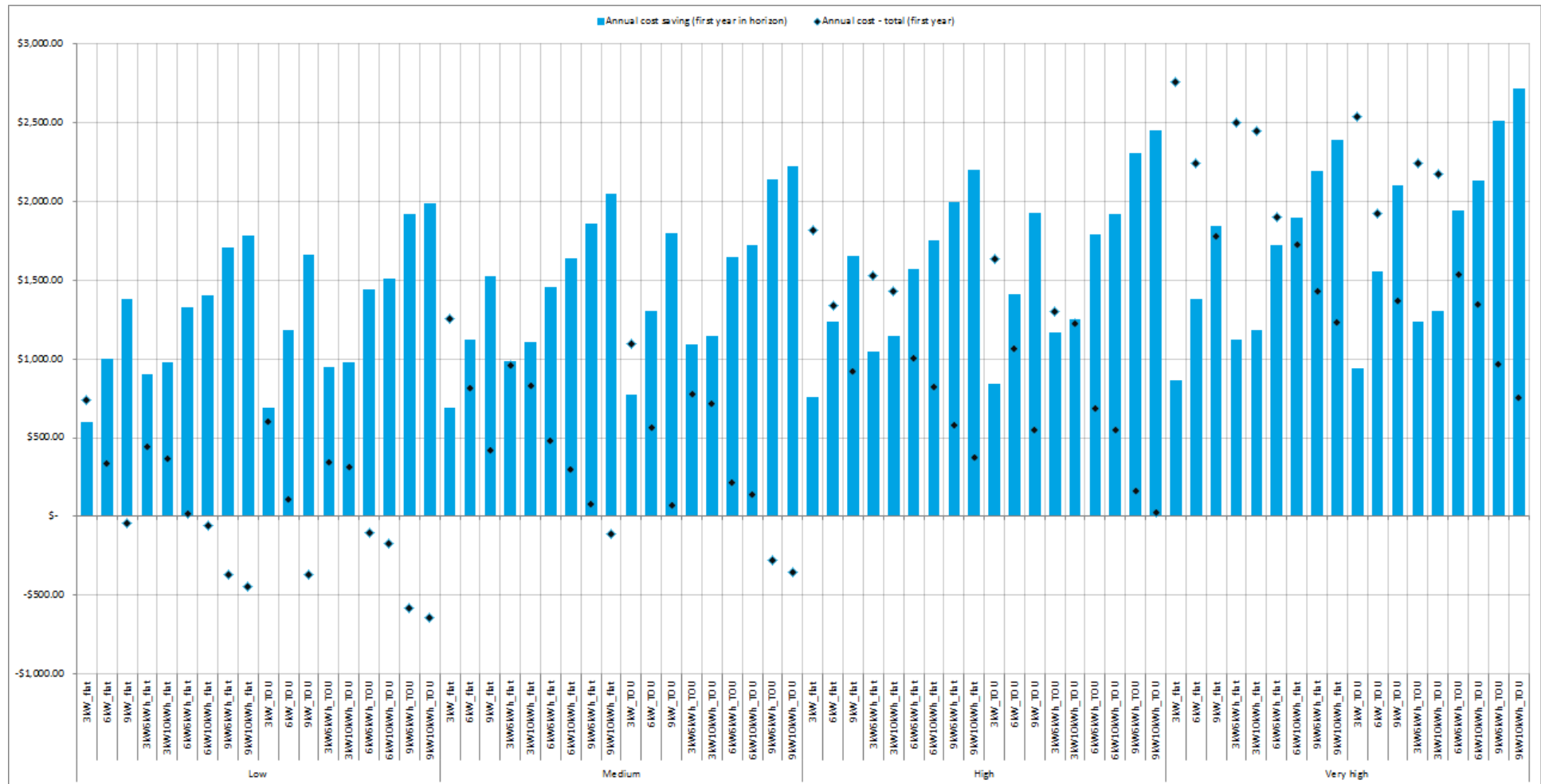
Source: Sunulator, AEMC analysis and inputs.

Figure D.5 Discounted payback period comparison of all cases modelled



Source: Sunulator, AEMC analysis and inputs.

Figure D.6 Annual cost and savings (first year) comparison of all cases modelled



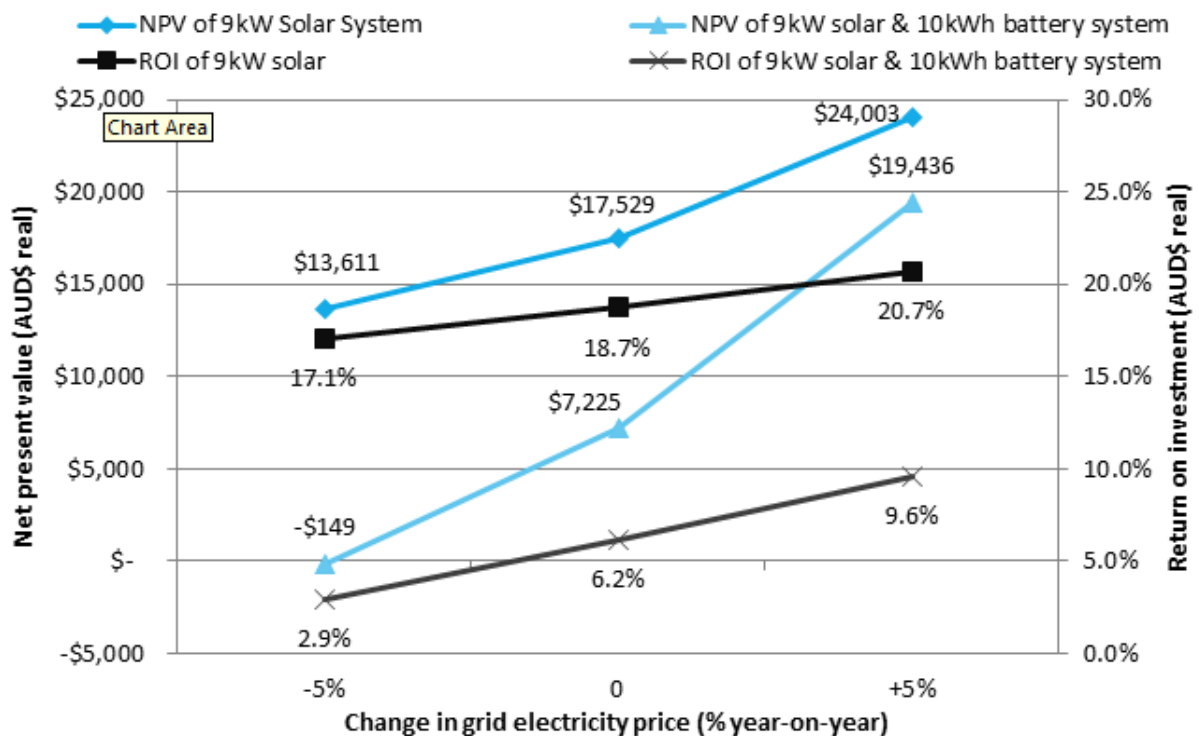
Source: Sunulator, AEMC analysis and inputs.

D.5 Sensitivity of investments to changes in retail electricity prices

A sensitivity analysis was conducted on the change to real grid tariff prices and their effect on DER investment financial outcomes. It was modelled that an increase incrementally year-on-year from year four of the modelling horizon with a real five per cent increase, a real zero per cent change (which was used in the rest of the modelling scenarios) and real five per cent decrease. The incremental changes to tariffs in years one to three were taken from the Commission's *2017 Residential Electricity Price Trends – Final Report*.

As shown in Figure D.7, the analysis found that if real residential electricity prices were to increase by five per cent year-on-year, then the business case for both solar PV systems, and solar PV and battery combined systems increased dramatically. Similarly, if real residential electricity prices were to decrease by five per cent year-on-year, the business case for both solar PV systems, and solar PV and battery combined systems would dramatically decrease. This is not to say that all scenarios became financially viable or unviable, but that the price trend over the simulation horizon has a great impact on the financial outcomes of the scenarios. As such, the real zero per cent change to electricity prices is the most neutral projection for the volatile and rapidly evolving energy sector. This was the rationale used for the scenarios being simulated with a real flat (or zero) electricity price incremental change year-on-year.

Figure D.7 Sensitivity of investments to changes in real retail electricity prices



Source: Sunulator, AEMC analysis and inputs.

E Concessions and rebate information

As noted in Chapter 8, concession and rebates are set at different amounts across jurisdictions and apply differently in each state. Table E.1 below outlines the different concessions and rebates available in each jurisdiction. The list does not include energy efficiency programs that may be available to low income households or efficient appliance rebates in different jurisdictions.

As can be seen from Table E.1, there is a variety in the:

- types of concessions available in each jurisdiction
- consumers who may be eligible for concessions or rebates
- values of rebates, as well as the ways in which payments are received (quarterly or once a year, through bills or made directly to consumers, as a capped amounts or based on the final bill)
- ways to apply for a rebate, through a retailer or government department.

Table E.1 is an overview of concessions schemes and should not be relied upon for advice on eligibility for concessions. Further detail should be sought from individual government departments regarding concessions and rebates that may be available.

Table E.1 Jurisdictional concessions and rebate

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Australian Capital Territory			
Utilities Concession (energy, water and sewerage rebate)	Primary holders of a: <ul style="list-style-type: none">• Department of Human Services (DHS) or Department of Veterans Affairs (DVA) Pensioner Concession Card• DHS Low Income Health Care Card• DVA Gold Cards.	\$604 a year paid directly, rather than as a reduction to utility bills.	Apply through retailer.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Life Support Rebate	Eligibility is determined by retailer. However, generally available for electrically-operated life support equipment (as prescribed by an Australian Capital Territory medical practitioner) necessary in the treatment of a life-threatening condition.	\$121.87 a year applied to electricity bills as a daily rate of approximately 33.389 cents per day.	Apply through retailer.
New South Wales			
Family Energy Rebate	<p>People with dependent children deemed eligible for the Family Tax Benefit from DHS in the previous financial year.</p> <p>Applicant must be the Family Tax Benefit recipient and electricity account holder.</p> <p>Full rebate – for eligible customers that do not hold a DHS Concession Card or Health Care Card.</p> <p>Part rate – for eligible customers also eligible for Low Income Household Rebate.</p>	<p>Full rate:</p> <ul style="list-style-type: none"> • \$180 a year (applied before GST) for retail customers • \$198 a year for on-supplied customers. <p>Part rate:</p> <ul style="list-style-type: none"> • \$20 a year (applied before GST) for retail customers • \$22 a year for on-supplied customers. <p>For retail customers - applied as a one-off credit to an electricity bill per financial year for account holders.</p> <p>For on-supplied customers - paid directly into a bank account as a lump sum each financial year.</p>	<ul style="list-style-type: none"> • Retail customers - apply through the Department of Planning and Environment (Department), and rebates are provided through the retailer. • On-supplied customers - apply through the Department and rebates are provided by the Department.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
NSW Gas Rebate	<p>An account holder who has one of the following eligible concession cards:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • DHS Health Care Card • Various DVA Gold Cards. 	<ul style="list-style-type: none"> • \$110 a year (applied before GST) for retail customers • \$121 a year (applied after GST) for on-supplied customers. <p>For retail customers - calculated on a daily basis and credited to each gas bill at the end of each billing cycle.</p> <p>For on-supplied and bottled LPG customers – paid into a bank account once per financial year.</p>	<ul style="list-style-type: none"> • Retail customers - apply through retailer. • On-supplied and bottled LPG customers - apply through the Department of Planning and Environment.
Low Income Household Rebate	<p>An account holder who has one of the following eligible concession cards:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • DHS Health Care Card • Various DVA Gold Cards. 	<ul style="list-style-type: none"> • \$285 a year (applied before GST) for retail customers. • \$313.50 a year (applied before GST) on-supplied customer. <p>For retail customers - calculated on a daily basis and credited to each gas bill at the end of each billing cycle.</p> <p>For on-supplied customers - paid directly into a bank account as a lump sum once per financial year.</p>	<ul style="list-style-type: none"> • Retail customers - apply through retailer. • On-supplied customers - apply through the Department of Planning and Environment.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Life Support Rebate	People who use certain approved life support equipment at home which is necessary to sustain life, as confirmed by a medical practitioner.	<p>Rebates are provided for each piece of approved life support equipment.</p> <p>Retail customers - rebates are calculated at a daily rate depending on type of equipment and frequency of use. Yearly rebates can range from approximately: \$40 to \$1,343 a year (applied before GST).</p> <p>On-supplied customers – rebates are provided as an annual rate. Yearly rebates can range from approximately \$44.17 up to \$1,477.72 a year depending on the type of equipment and frequency of use.</p>	<ul style="list-style-type: none"> Retail customers - apply through retailer. On-supplied customers - apply through the Department of Planning and Environment.
Medical Energy Rebate	<p>Households with a member that has various qualifying medical conditions that makes them unable to self-regulate body temperature, as confirmed by a medical practitioner, and also must hold the following eligible concession cards:</p> <ul style="list-style-type: none"> DHS or DVA Pensioner Concession Card DHS Health Care Card DVA Gold Card. 	<ul style="list-style-type: none"> \$285 a year (applied before GST) for retail customers \$313.50 a year for on-supplied customers. <p>For retail customers - rebates are credited to each electricity bill at the end of each billing cycle.</p> <p>For on-supplied customers - paid directly into a bank account as a lump sum once per financial year.</p>	<ul style="list-style-type: none"> Retail customers - apply through retailer. On-supplied customers - apply through the Department of Planning and Environment.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Energy Accounts Payment Assistance (EAPA) Scheme	People experiencing short-term financial crisis or emergency. (Not intended to provide ongoing support)	Maximum of \$600 per year per energy type for retail customers. Additional assistance may be provided in exceptional circumstances. Assistance is provided electronically in \$50 increments. Retailers apply EAPA vouchers as a credit against the recipient's last outstanding bill. Retailers cannot charge late payment fees when a customer is seeking assistance through EAPA.	Apply through an accredited EAPA Provider. Retailer contacted by the EAPA Provider once customer gives EAPA Provider permission. EAPA Providers include various non-government organisations and charities including St Vincent de Paul, the Salvation Army, Anglicare and others. EAPA Providers assess eligibility and administer funds according to the individual circumstances of the applicant.
Queensland			
Electricity Rebate	An account holder who has one of the following eligible concession cards: <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • DVA Gold Cards • DHS Health Care Card • Queensland Seniors Card • Asylum seeker status. 	\$340.85 a year (GST inclusive) deducted from bills.	Apply through retailer. Residents who are the owner/proprietor of premises in a residential home part or multi-unit residence are able to apply for the rebate.
Reticulated Natural Gas Rebate	An account holder who has one of the following eligible concession cards: <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • DVA Gold Cards • Queensland Seniors Card. 	\$71.30 a year (GST inclusive) deducted from bills.	Apply through retailer. Residents who are the owner/proprietor of premises in a residential home part or multi-unit residence are able to apply for the rebate.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Electricity Life Support	People who are seriously ill and use a home-based oxygen concentrator or kidney dialysis machine. Available only to oxygen concentrators (for Pensioner Concessions, Health Care Card Health Care Interim Voucher, Child Disability Allowance or a Queensland Seniors Card) or kidney dialysis machines issued by Queensland Health.	\$694.18 per year for each oxygen concentrator, and \$464.88 per year for each kidney dialysis machine. Concession is calculated monthly and paid quarterly into a nominated bank account.	Apply through Queensland Government.
Medical Cooling and Heating Electricity Concession Scheme	People who have a chronic medical condition, such as multiple sclerosis, autonomic system dysfunction, significant burns or a severe inflammatory skin condition, which is aggravated by changes in temperature.	\$340.85 (including GST) per year (eligibility is reviewed every two years) Concession is calculated monthly and paid quarterly into a nominated bank account.	Apply through Queensland Government.
Home Energy Emergency Assistance Scheme	Households experiencing problems paying their electricity or reticulated natural gas bills as a result of an unforeseen emergency or a short-term financial crisis. To be eligible, the applicant must be responsible for paying the outstanding bill (the bill does not need to be in their name) and meet one of the following: <ul style="list-style-type: none"> • hold a current concession card • have an income equal to or less than the Australian Government's maximum income rate for part-age pensioners • be part of an energy retailer's hardship program or payment plan. 	Up to \$720 once every 2 years.	Apply through retailer.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Tasmania			
Annual Electricity Concession	An account holder who has one of the following eligible concession cards: <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • DHS Health Care Card • ImmiCard (Bridging Visa E) • Tasmanian Concession Card. 	Daily discount of 135.208 cents per day, credited on each bill.	Apply through retailer.
Heating Allowance	Account holders who hold a DHS or DVA Pensioner Concession Card.	\$56 a year (payments of \$28 are made in May and September).	Apply through Tasmanian Government.
Life Support Concession	Account holders who use an approved life support system or who live with someone who uses such a system in their principal place of residence.	Rates depend on type of equipment but ranges from 35.560 cents to 188.851 cents per day. Credited on each bill.	Apply through retailer.
Medical Cooling or Heating Concession	Account holders who have, or who live with a person who has, a medical condition that requires the cooling or heating of the customer's principal place of residence in order to manage that medical condition.	40.489 cents per day, credited on each bill.	Apply through retailer.
Victoria			
Annual Electricity Concession	An account holder who has one of the following eligible concession cards: <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • Health Care Card • DVA Gold Card. 	17.5 per cent of electricity usage and service costs (calculated after retailer discounts and solar credits have been deducted). Concession does not apply to the first \$171.60 of the annual bill.	Apply through retailer.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Excess Electricity Concession	<p>An electricity account holder whose annual electricity costs are above \$2,725 and who holds one of the following eligible concession cards:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • Health Care Card • DVA Gold Card. 	7.5 per cent of electricity usage and service costs (calculated after retailer discounts and solar credits have been deducted).	Apply through retailer and Victorian Government.
Controlled Load Electricity Concession	<p>Only available to households with an eligible dual element electricity meter or dual element smart meter.</p> <p>An electricity account holder who has one of the following eligible concession cards:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • Health Care Card • DVA Gold Card. 	13 per cent of controlled load electricity costs.	Apply through retailers.
Electricity Transfer Fee Waiver	<p>An electricity account holder who has one of the following eligible concession cards:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • Health Care Card • DVA Gold Card. 	The full transfer fee that is charged by electricity retailers when account holders move house is waived.	Apply through retailer.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Life Support Concession	<p>An electricity account holder who:</p> <ul style="list-style-type: none"> holds an eligible concession card (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. <p>Approved machines are those that use at least 1,880 kilowatt hours of electricity annually.</p>	The electricity discount is the cost of 1,880 kilowatt hours (470 kilowatt hours per quarter) of electricity each year, calculated using the general domestic tariff of the applicant's retailer.	Apply through retailer.
Medical Cooling Concession	<p>An electricity account holder who holds an eligible concession card (Pensioner Concession Card, Health Care Card, Veterans' Affairs Gold Card) and has:</p> <ul style="list-style-type: none"> a medical condition that affects their body's ability to self-regulate temperature or a household member with such a medical condition. 	17.5 per cent of electricity usage and service costs between 1 November and 30 April.	Apply through retailer.
Service to Property Charge Concession	<p>An electricity account holder who has one of the following eligible concession cards:</p> <ul style="list-style-type: none"> DHS or DVA Pensioner Concession Card Health Care Card DVA Gold Card. 	If the electricity use on a bill is lower than the service charge, the service charge is reduced to the cost of the electricity used (calculated after retailer discounts and solar credits have been deducted).	Apply through retailer.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Winter Gas Concession	<p>A gas account holder who has one of the following eligible concession cards:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • Health Care Card • DVA Gold Card. 	<p>17.5 per cent of gas usage and service costs (calculated after retailer discounts and solar credits have been deducted).</p> <p>The concession does not apply to the first \$62.40 of the six-month winter period bills.</p>	Apply through retailer.
Excess Gas Concession	<p>A gas account holder whose winter gas costs are above \$1,518 and who holds one of the following eligible concession cards:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • Health Care Card • DVA Gold Card. 	<p>17.5 per cent of gas usage and service costs (calculated after retailer discounts and solar credits have been deducted). For the six-month winter period 1 May to 31 October 2017.</p>	Apply through retailer and Victorian Government.
Non-mains Energy Concession	<p>Applies to non-mains sources of energy including:</p> <ul style="list-style-type: none"> • liquefied petroleum gas (LPG) • electricity accessed via an embedded network • firewood for domestic heating, cooking or hot water. <p>Eligible applicants are account holders whose winter gas costs are above \$1,518 and who hold one of the following eligible concession cards:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • Health Care Card • DVA Gold Card. 	<p>The concession is paid annually based on the amount paid for each energy type in that year. A separate rebate is paid for each energy type used.</p>	Apply through Victorian Government.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Utility Relief Grant Scheme (mains and non-mains)	<p>Available to customers experiencing emergency or crisis such as the loss of income, substantial increase in utility use or the costs of utility use is more than 10 per cent of household income.</p> <p>An account holder who has one of the following eligible concession card:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • Health Care Card • DVA Gold Card. <p>Customers of hardship programs are also able to apply.</p>	<p>The amount of the grant is based on the amount owed at the time of application. It is capped at six months' worth of utility use up to a maximum of \$500. Separate grants apply for each utility (electricity, gas and water).</p> <p>A grant can only be given once every two years per utility type.</p>	Apply through retailer.
South Australia			
Energy Bill Concessions	<p>An account holder who has one of the following eligible concession card:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • DVA Gold Card • Low Income Health Care Card • Commonwealth Seniors Health Card <p>OR who receives certain Centrelink payments.</p>	<p>\$217.90 to cover both electricity and gas payments (including LPG bottled gas).</p> <p>For private tenants and Housing SA tenants, concession is applied to the bill. Residents of residential parks and retirement villages receive a quarterly payment by electronic funds transfer.</p>	Apply through South Australian Government.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Medical Heating and Cooling Concession	<p>Residents on a fixed or low income who have a clinically verified medical condition which requires the frequent use of heating or cooling in the home to prevent the severe worsening of their condition.</p> <p>Applicants must be financially responsible for the full or part payment of the energy bill and have one of the following eligible concession cards:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • DVA Gold Card • Low Income Health Care Card • Commonwealth Seniors Health Card <p>OR who receives certain Centrelink payments.</p>	\$217.90 per year made via electronic funds transfer.	Apply through South Australian Government.
Cost of Living Concession	<p>On 1 July of the relevant financial year held one of the following eligible cards:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • DVA Gold Card • Low Income Health Care Card • Commonwealth Seniors Health Card <p>OR receive certain Centrelink payments.</p>	<p>Amount per year per eligible household is for:</p> <ul style="list-style-type: none"> • homeowner-occupiers - \$202.70 • homeowner-occupiers who are self-funded retirees with a Commonwealth Seniors Health Card - \$101.40 • tenants - \$101.40. <p>All concession payments are made via electronic funds transfer.</p>	Apply through South Australian Government.

Concession	Who is eligible?	Value (\$2017/18) and application of payments	Party to apply through
Residential Park Resident Concession	<p>People who live in a residential park or a caravan park and hold one of the following cards:</p> <ul style="list-style-type: none"> • DHS or DVA Pensioner Concession Card • DVA Gold Card • Low Income Health Care Card • Commonwealth Seniors Health Card <p>OR who receives certain Centrelink payments.</p>	<p>The amount is dependent on living arrangements and the utilities paid for:</p> <ul style="list-style-type: none"> • residents who own their own dwelling and pay for water, sewerage and energy - up to \$516.90 per annum (paid quarterly) • tenants who pay for water and energy - up to \$339.50 per annum (paid quarterly). 	Apply through South Australian Government.
Home Dialysis Electricity Concession	Any person undergoing dialysis treatment at home provided that the concession has been approved by a SA Health practitioner	\$165 a year.	Apply through South Australian Government.
Emergency Electricity Payment Scheme	Households in financial crisis who are unable to pay their electricity debt.	A payment of up to \$400 (every three years) is provided to low-income households who have been disconnected or are at risk of disconnection.	Applications must be completed with the assistance of a financial counsellor.
Commonwealth (DHS)			
Utilities Allowance	<p>People who receive the following DHS allowances:</p> <ul style="list-style-type: none"> • Disability Support Pension and are under 21 years of age with no dependent children • Partner Allowance • Widow Allowance. 	<p>A quarterly payment to help with household bills:</p> <ul style="list-style-type: none"> • For single households -\$157.20 a quarter • For couples - \$78.60 a quarter for each eligible member of a couple. <p>The allowance is not subject to tax or means tested.</p>	Apply through DHS.

F Jurisdictional Summaries

Summary of trends for measures and indicators – electricity

	Measure	Trend	Comment
Structure	Barriers to entry, expansion & exit	Stable	<ul style="list-style-type: none"> - Retailers reported the lack of wholesale contract liquidity is a barrier to expansion which is most acute in South Australia - Claims that regulatory divergence and increased intervention are increasing retail costs
	Market concentration/ share	Stable / improving	<ul style="list-style-type: none"> - ↓ market concentration and share of Big 3 retailers - largest change in South East Queensland - One new retailer (Energy Locals) and one new brand (amaysim Energy) entered - One retailer (Online Power and Gas) exited
Market Conduct	Consumer activity & confidence	Improving / mixed	<ul style="list-style-type: none"> - ↑ electricity switching rates – Victoria the highest (27%) and ACT one of the lowest (6%) - 20 - 26% of residential consumers likely to switch retailer or plan in the next 12 months - ↓ 11% residential confidence in ability to make good decisions in energy market - ↓ 5% businesses confidence in finding the right information to choose an energy plan
	Retail pricing strategy	Stable	<ul style="list-style-type: none"> - Discounts remain predominant form of pricing competition, with limited tariff innovation - Zero per cent and guaranteed discounts are being offered, but largely at the periphery
	Retail energy prices	Increased	<ul style="list-style-type: none"> - Residential electricity bills ↑ 9 -22% (\$110 - \$316), except South East Queensland ↓ 5% (\$70) - Business electricity bills ↑ 5-28% (\$213 – 1,303)*
	Innovation and distributed energy services	Increased	<ul style="list-style-type: none"> - Installations of small-scale solar ↑ 25% and batteries ↑ 275% over the past year - Investments in solar are a good investment in almost all cases with payment from the SRES - Batteries at current cost levels are less financially beneficial relative to solar PV - 41 – 62% of consumers have, or are considering investing in rooftop solar systems

	Measure	Trend	Comment
Market outcomes /performance	Consumer outcomes / Satisfaction	Decrease	<ul style="list-style-type: none"> - ↓ residential satisfaction <ul style="list-style-type: none"> ○ level of competition in energy markets ↓ 6% ○ customer service ↓ 3% ○ value for money ↓ 3% - ↓ business satisfaction <ul style="list-style-type: none"> ○ current electricity provider ↓ 17% ○ customer service ↓ 8% ○ value for money ↓ 4% ○ choice of energy company or plan ↓ 9%
	Complaints	Improving	<ul style="list-style-type: none"> - ↓ 27% customer complaints to energy retailers in 2016/17 - ↓ 23% electricity complaints to the ombudsmen on average, except Tasmania (↑ 26%) - Indicative data shows complaints started to ↑ Q1 2017/18
	Retailer margins	Increase	<ul style="list-style-type: none"> - ↑ 10% Big 3 gross margins (2015-16 - 2016-17, per kWh basis), Victoria highest, South East Queensland lowest

*Bill estimates are based on indicative consumption profiles in each jurisdiction. Note: there are large differences in business consumption profiles which will affect the bill estimates.

Summary of trends measures and indicators – gas

	Measure	Trend	Comment
Structure	Barriers to entry, expansion & exit	Stable	<ul style="list-style-type: none"> - Access to reasonably priced gas commodity and transport a barrier for entry/expansion - The Prime Minister's roundtable improved access to gas
	Market concentration/share	Stable	<ul style="list-style-type: none"> - One new retailer (Sumo Power) and one new brand (amaysim Energy) entered - 2015 - 2017 market share changes were relatively minor, except in NSW and the ACT
Market Conduct	Consumer activity / confidence	Improving / mixed	<ul style="list-style-type: none"> - ↑ gas switching rates in all jurisdictions after falling in 2016 - Average gas switching rate 15%, Victoria highest at 18%, NSW ↑ from 10% to 14% - ↓ 11% residential confidence in ability to make good decisions in energy market - ↓ 5% businesses confidence in finding the right information to choose an energy plan
	Retail pricing strategy	Stable	<ul style="list-style-type: none"> - Discounts remain predominant form of pricing competition, limited tariff innovation
	Retail energy prices	Increase	<ul style="list-style-type: none"> - Residential gas bills ↑2-17% (\$14 - \$192) - The proportion of customers on market offers increased
Market outcomes /performance	Consumer outcomes / Satisfaction	Decrease	<ul style="list-style-type: none"> - ↓ residential satisfaction <ul style="list-style-type: none"> o Level of competition in energy markets ↓ 6% o customer service ↓ 1% o value for money ↓ 4% - ↓ business satisfaction <ul style="list-style-type: none"> o choice of energy companies and plans ↓ 9% o customer service ↓ 4% o value for money ↑ 6% o current gas provider ↓ 6%
	Complaints	Improving	<ul style="list-style-type: none"> - ↓ 27% customer complaints to energy retailers in 2016/17 - ↓ 22% gas complaints to the energy ombudsmen on average

Note: For the review the Commission did not assess retail margins for gas retailers.

Overall statistical summary of competition - Electricity⁴⁴⁹

	Category	Measure	2015 review	2016 review	2017 review	2018 review	Source
Structure	Market characteristics	Number of small customers	9,315,232	9,370,238	9,483,990	9,573,190	AER retail statistics, ESC
		Number of retail brands/businesses	26/22	33/28	33/27	33/28	AEMO data, AEMC analysis
		New retail brand/business entry into NEM	2/1	8/8	1/1	2/1	AEMO data, AEMC analysis
	Independent rivalry	Market concentration (% of customers with Big 3) ⁴⁵⁰	77%	72%	71%	70%	AER retail statistics, ESC
Market Conduct	Retailer activity	Number of offers	N/A	N/A	N/A	4,648	EME data, AEMC analysis
		Offer with: conditional/unconditional/no discount	N/A	N/A	N/A	56%/23%/23%	EME data, AEMC analysis
	Residential consumer activity	Switching rate- electricity company	18%	18%	19%	22%	AEMO data, AEMC analysis
	Business consumer activity	Switching rate- electricity company ⁴⁵¹	38%	38%	34%	37%	Small business surveys

⁴⁴⁹ Some figures have been updated since their respective reviews have been published due to better data availability.

⁴⁵⁰ This does not include Tasmania and regional Queensland. Victoria is not included in the 2014 statistic due to lack of data.

⁴⁵¹ This is based on consumer survey data and is not exhaustive. Businesses were asked if they had switched in the past 12 months.

	Category	Measure	2015 review	2016 review	2017 review	2018 review	Source
Market Performance	Residential consumer outcome	Satisfaction with level of competition/value for money-electricity	N/A	40%/45%	49%/48%	43%/44%	ECA survey, AEMC analysis
	Business consumer outcome	Satisfaction with level of competition/value for money-electricity	35%/42%	57%/61%	51%/62%	47%/53%	Small business surveys
	Competitive prices	Overall percentage of gross margins (Big 3) ⁴⁵²	18%	17%	18%	18%	Retailer data, AEMC analysis

Overall statistical summary of competition – Gas⁴⁵³

	Category	Measure	2015 review	2016 review	2017 review	2018 review	Source
Structure	Market characteristics	Number of small customers	3,884,521	3,930,456	4,018,887	4,077,610	AER retail statistics, ESC
		Number of retail brands/businesses	14/12	14/12	14/12	16/14	AEMO data, AEMC analysis
		New retail brand/business entry into NEM	3/3	0/0	0/0	2/1	AEMO data, AEMC analysis
	Independent rivalry	Market concentration (% of customers with Big 3) ⁴⁵⁴	95%	84%	82%	81%	AER retail statistics, ESC

⁴⁵² This statistic does not include Tasmania. Data is for the previous financial year to the review year.

⁴⁵³ Some statistics have been updated since their respective reviews have been published due to better data availability.

⁴⁵⁴ This statistic does not include Tasmania or regional Queensland. Victoria is not included in the 2014 statistic due to lack of data.

	Category	Measure	2015 review	2016 review	2017 review	2018 review	Source
Market Conduct	Retailer activity	Number of offers	N/A	N/A	N/A	961	EME data, AEMC analysis
		Offer with: conditional/unconditional/no discount	N/A	N/A	N/A	56%/32%/15%	EME data, AEMC analysis
	Residential consumer activity	Switching rate- gas company	18%	16%	13%	15%	AEMO data, AEMC analysis
	Business consumer activity	Switching rate- gas company ⁴⁵⁵	46%	14%	10%	32%	Small business surveys
Market Performance	Residential consumer outcome	Satisfaction with level of competition/value for money-gas	N/A	40%/57%	49%/64%	43%/60%	ECA survey, AEMC analysis
	Business consumer outcome	Satisfaction with level of competition/value for money-gas	35%/49%	57%/43%	51%/55%	47%/61%	Small business surveys
	Competitive prices	Overall percentage of gross margins ⁴⁵⁶	N/A	29%	18%	25%	Oakley Greenwood Gas Price Trends

⁴⁵⁵ This is based on consumer survey data and is not exhaustive. Businesses were asked if they had switched in the past 12 months.

⁴⁵⁶ This is reported as a national figure and includes Western Australia.

F.1 Queensland

Queensland has two distinct energy markets – *South East Queensland* and *regional Queensland*. Full retail contestability was introduced in both markets in 2007. Price deregulation in gas occurred in both markets in 2007 and in electricity in South East Queensland on 1 July 2016. Marked differences in these markets' characteristics have influenced the evolution of competition. South East Queensland covers a much smaller geographical area than regional Queensland (25,000 square kilometres compared to more than one million square kilometres). It also has a much larger customer base, which is approximately twice the size of regional Queensland's customer base.

Similar to previous years, the Commission has defined the South East Queensland and regional Queensland markets based on their electricity distribution areas (the Energex and Ergon Energy areas, respectively).

For gas, while Toowoomba and Oakey fall into the Ergon Energy area, gas customers in these towns are supplied from the same pipeline as those in South East Queensland. Consequently, they have access to the same gas offers and have been included in this market.

Queensland implemented the NECF on 1 July 2015.

In December 2017, retail electricity businesses were supplying 2.15 million small electricity customers in Queensland.⁴⁵⁷

In South East Queensland there were 18 electricity retail businesses (21 electricity retail brands) and two gas retail businesses and brands, as of May 2018. Energy Locals was the only business to have entered the NEM as a new electricity retailer since the 2017 Review, and was active in South East Queensland. Four other retailers expanded their brands into the South East Queensland.

In regional Queensland one electricity retail business (Ergon Energy Retail) supplied almost all of the market's small electricity customers with approximately 695,000 customers as of December 2017.⁴⁵⁸ Two other electricity retail companies and brands are present in the region. As in South East Queensland, there are two gas retail businesses and brands.

Electricity prices are subsidised in regional Queensland through the Uniform Tariff Policy (UTP).⁴⁵⁹ Other retailers do not have access to this subsidy. This has made it difficult for other retailers to enter the market and offer competitive prices. Regulated

⁴⁵⁷ Australian Energy Regulator, *Retail markets. Retail statistics. Queensland - small customers*, viewed 2 May 2018, www.aer.gov.au/retail-markets/retail-statistics/queensland-small-customers.

⁴⁵⁸ Australian Energy Regulator, *Retail markets. Retail statistics. Queensland - small customers*, viewed 2 May 2018, www.aer.gov.au/retail-markets/retail-statistics/queensland-small-customers.

⁴⁵⁹ The UTP is a payment from the Queensland Government to Ergon Energy's retail business to ensure the prices paid by small consumers are equivalent to those paid by the same customer types in the competitive market is South East Queensland.

retail prices for 2018/19 for small customers in regional Queensland were published on 31 May 2018.⁴⁶⁰

As of December 2017, there were approximately 204,000 small gas customers across Queensland.⁴⁶¹ While most of South East Queensland has access to gas, only some areas in regional Queensland have access to reticulated gas. These are Gladstone, Rockhampton, the Wide Bay-Burnett region (Bundaberg, Maryborough and Hervey Bay), Toowoomba and Oakey.

Table F. 1 Summary of market indicators: electricity

Indicator		Comment
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none"> The UTP was cited by retailers as a barrier to market entry into regional Queensland. In late 2017 Alinta Energy and CS Energy set up a 50-50 joint venture to supply electricity customers within the Energex Distribution Area. Alinta Energy has entered the market with high discounts to gain market share. Other retailers noted that Alinta Energy's aggressive discounting has prompted other retailers to respond with better deals to consumers.
	Independent rivalry	<ul style="list-style-type: none"> Market concentration declined in South East Queensland by 450 points on the HHI to 3,246. South East Queensland remains the third most concentrated market in the NEM based on the HHI, as it has since 2009.
Market conduct	Residential consumer engagement and activity	<ul style="list-style-type: none"> There has been an increase in the number of customers switching in South East Queensland, following deregulation of the market (approximately 25 per cent in 2017 compared to 17 per cent in 2016). It is the second highest switching rate in the NEM. Fewer consumers in South East Queensland indicated an intention to switch retailers in the next 12 months (17 per cent in April 2018 compared to 26 per cent in September 2017). Residential consumer confidence decreased in 2018. In April 2018, compared to April 2017, confidence that: <ul style="list-style-type: none"> the energy market is working in consumers' long-term interests was at 21 per cent in the whole of Queensland and 26 per cent in South East Queensland (down 10 per cent and eight per cent respectively) they can make good decisions was at 58 per cent in the whole of Queensland and 65 per cent in South East Queensland (down 10 per cent and three per cent respectively)

⁴⁶⁰

www.qca.org.au/Electricity/Regional-consumers/Reg-Electricity-Prices/Final-Report/Regulated-Electricity-Prices-2018-19#finalpos

⁴⁶¹

AER, *Retail markets - Retail statistics - Queensland - small customers*, viewed 2 May 2018, www.aer.gov.au/retail-markets/retail-statistics/queensland-small-customers.

Indicator		Comment
		<ul style="list-style-type: none"> — they can access easily understood information was at 55 per cent in the whole of Queensland and 57 per cent in South East Queensland (no change to either).
	Business consumer engagement and activity	<ul style="list-style-type: none"> • A significantly higher proportion of businesses in South East Queensland have recently switched their business energy provider or plan and have indicated they would not look for a better deal in a while (41 per cent in 2018, compared to 12 per cent in 2017). • In 2018, regional Queensland businesses had significantly lower propensity to switch; only seven per cent would be interested in switching but are not currently looking (from 24 per cent in 2017) and just one per cent were currently looking for a better deal (from 12 per cent in 2017). • The level of confidence in South East Queensland businesses to find the right information remained unchanged at about 67 per cent. There was a large decrease in businesses in regional Queensland who feel confident in finding the right information. In 2018, eight per cent of businesses were quite or very confident in finding the right information (a drop of 52 per cent from 2017).
	Retailer pricing strategy	<ul style="list-style-type: none"> • Conditional discounting from varying base rates is still the most common form of retailer pricing strategy. • There are some alternative and innovative pricing offers available, but they are limited in number. • Some features of electricity offers in South East Queensland in 2018 were: <ul style="list-style-type: none"> — 54 per cent of offers had conditional discounts — 27 per cent of offers had guaranteed discounts — 22 per cent of offers had no discount.⁴⁶²
	Retail energy price offer spread	<ul style="list-style-type: none"> • By switching from the median standing offer to the cheapest market offer, Ergon Energy residential consumers could save \$62 and \$504 for Energex customers. Small business customers in Ergon and Energex networks could save nine and 40 per cent off their annual bills respectively.
Market outcomes / performance	Residential consumer outcomes	<ul style="list-style-type: none"> • Queensland saw an increase in satisfaction with customer service from 2017. In April 2018, compared to April 2017 satisfaction with: <ul style="list-style-type: none"> — level of competition was at 41 per cent in Queensland and 53 per cent in South East Queensland (a reduction of two per cent and an increase of two per cent respectively) — customer service from electricity retailers was at 59 per cent in Queensland (an increase of 4 per cent) and 63

⁴⁶² AEMC analysis of offers taken from *Energy Made Easy*. Note: offers can have both conditional and guaranteed discounts at the same time and therefore percentage can be higher than 100 per cent.

Indicator		Comment
		<p>per cent in South East Queensland (an increase of six per cent)</p> <p>— the value for money of electricity retailers was at 45 per cent in Queensland and 50 per cent in South East Queensland (an increase of two per cent and five per cent respectively).</p> <ul style="list-style-type: none"> • There was a 33 per cent reduction in complaints to retailers (electricity and gas) and an eight per cent reduction to the Ombudsmen (electricity) from 2015/16 to 2016/17. EWOQ stated that industry participants successfully resolved less complex customer complaints allowing EWOQ to deal with more complex and systematic issues. • The number of customers on hardship programs between June 2016 and June 2017 increased from 18,423 to 19,700. • Electricity disconnection rates have increased in the past year by 16 per cent (from 21,672 in 2015/16 to 25,201 in 2016/17).
	Business consumer outcomes	<ul style="list-style-type: none"> • In April 2018 compared to April 2017 satisfaction with: <ul style="list-style-type: none"> — current electricity providers was at 53 per cent in South East Queensland (an 18 per cent decrease) and 60 per cent in regional Queensland (a two per cent increase) — customer service from electricity retailers was at 69 per cent in South East Queensland (an increase of three per cent) and 82 per cent in regional Queensland (a 30 per cent increase) — the value for money of electricity was at 56 per cent in South East Queensland (unchanged) and 31 per cent in regional Queensland (one per cent decrease) — the level of competition was 55 per cent in South East Queensland (a five per cent decrease) and 17 per cent in regional Queensland (a 15 per cent decrease). • There has been a reduction in complaints to retailers by 22 per cent in the whole of Queensland from 2015/16 to 2016/17. • There was a 17 per cent increase in business customer disconnection rates in 2016/17 from the previous year from 1,403 to 1,641.
	Retailer outcomes	<ul style="list-style-type: none"> • The gross margin of Queensland small customer electricity bills for the Big 3 retailers decreased by one per cent from 2015/16 to 10 per cent in 2016/17.

Table F. 2 Summary of market indicators: gas

Indicator		Comments
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none"> • No retailers explicitly mentioned barriers to entry, expansion or exit in the Queensland gas market. • Retailers noted that it had become slightly easier to get access to wholesale gas contracts over the past year, after

Indicator		Comments
		the Prime Minister's gas roundtable.
	Independent rivalry	<ul style="list-style-type: none"> Market concentration measured by the HHI has remained somewhat static for the gas retail market in South East Queensland since 2016 at approximately 5150 points. Since 2016 there have been no new entrants in Queensland gas market.
Market conduct	Residential consumer engagement and activity	<ul style="list-style-type: none"> Residential consumer confidence has changed over the past year. For more details see Table F.1. In Queensland gas customer engagement remained stable in the past year with slightly more customers switching retailers (nine per cent in 2017 compared to eight per cent in 2016). Slightly fewer consumers in South East Queensland indicated an intention to switch retailers in the next 12 months (17 per cent in April 2018 compared to 23 per cent in April 2017).
	Business consumer engagement and activity	<ul style="list-style-type: none"> See Table F.1 for business consumer intentions to switch and confidence.
	Retailer pricing strategy	<ul style="list-style-type: none"> There has been little to no innovation regarding offerings in the gas retail market. Some feature of gas offers in South East Queensland in 2018 were: <ul style="list-style-type: none"> — 48 per cent of offers had conditional discounts — 36 per cent of offers had guaranteed discounts — 16 per cent of offers had no discounts.⁴⁶³
	Retail energy price offer spread	<ul style="list-style-type: none"> By switching from the median standing offer to the cheapest market offer residential consumers can (depending on their DNSP) save between \$15 and \$45.
Market outcomes / performance	Residential consumer outcomes	<ul style="list-style-type: none"> Residential consumer satisfaction has generally increased in the past year. In April 2018, compared to April 2017, satisfaction with: <ul style="list-style-type: none"> — customer service from gas retailers was 68 per cent in the whole of Queensland and 65 per cent in South East Queensland (an increase of five per cent and two per cent respectively) — the value for money of gas retailers was 61 per cent in the whole of Queensland and 59 per cent in South East Queensland (an increase of one per cent and decrease of three per cent respectively). The number of customers on hardship programs between June 2016 and June 2017 increased slightly from 1,058 to

⁴⁶³ Note that the offers shares may sum to greater than 100 per cent because some offers have both conditional discounts and unconditional discounts

Indicator		Comments
		1,066. <ul style="list-style-type: none"> Gas disconnection rates have decreased in Queensland by 27 per cent over the past year from 1,029 to 1,410.
	Business consumer outcomes	<ul style="list-style-type: none"> Gas disconnection rates have decreased in Queensland by 15 per cent over the past year from 101 to 85.

Summary of key market statistics

Table F.3 South East Queensland: Electricity

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of small customers*	As at end of previous calendar year			2.09m	2.12m (June 2017)	2.15m	AER retail statistics
	Number of retail brands/businesses	As at end of previous calendar year	11 / 10	11 / 10	13 / 11	16/14	21/18	AEMC analysis, AEMO data
Independent rivalry	Market concentration (HHI)	As at end of previous calendar year	4,079	3,895	3,807	3,697	3,246	AEMC analysis, AEMO data
	Market share of Big 3	As at end of previous calendar year	93%	92%	92%	89%	82%	AEMC analysis, AEMO data
Customer activity	Small customers on market offers*	As at end of previous calendar year			48%	51%	54%	AER retail statistics
Competitive retail prices**	Range of bill outcomes – Energex	Between January and February		\$1,429-\$1,681 (\$252 difference)	\$1,294-\$1,709 (\$415 difference)	\$1,313-\$1,905 (\$592 difference)	\$1,165-\$2,228 (\$1,063 difference)	AEMC analysis, Energy Made Easy website

* Data for whole of QLD. ** 2018 data is based on a representative customer in Queensland. Range of bill outcomes is based on the least to the most expensive (standing or market) offer available by DNSP area. Bills are based on data extracted from Government comparison website Energy Made Easy on 5 January 2017 and 21 March 2018.

Table F.4 South East Queensland: Gas

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of small customers ('000)*	As at end of previous calendar year	179	183	188	191 (June 2016)	203	AER retail statistics
	Number of retail brands / businesses	As at end of previous calendar year	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	AEMC analysis, AEMO data
Independent rivalry	Market concentration (HHI)*	As at end of previous financial year	5,162	5,085	5,118	5,149	5,152	AEMC analysis, AER data
	Market share of Big 3	As at end of previous calendar year	100%	100%	98%	97%	96%	AEMC analysis, AER data
Customer activity	Small customers on market offers*	As at end of previous calendar year			65%	70%	71%	AER retail statistics
Competitive retail prices	Range of bill outcomes- Brisbane and Riverview (AGN)	Q1 of the year of review				\$997–\$1,153 (\$156 difference)	\$562-\$602 (\$40 difference)	AEMC analysis, Energy Made Easy website
	Range of bill outcomes- Brisbane, Gold Coast, Toowoomba	Q1 of the year of review				\$1,032–\$1,159 (\$127 difference)	\$608-\$685 (\$77 difference)	AEMC analysis, Energy Made Easy website

* Data for whole of QLD. Note: range of bill outcomes is based on the least to the most expensive offer available (market and standing offer) by gas distribution area.

Offers to (non-solar) consumers

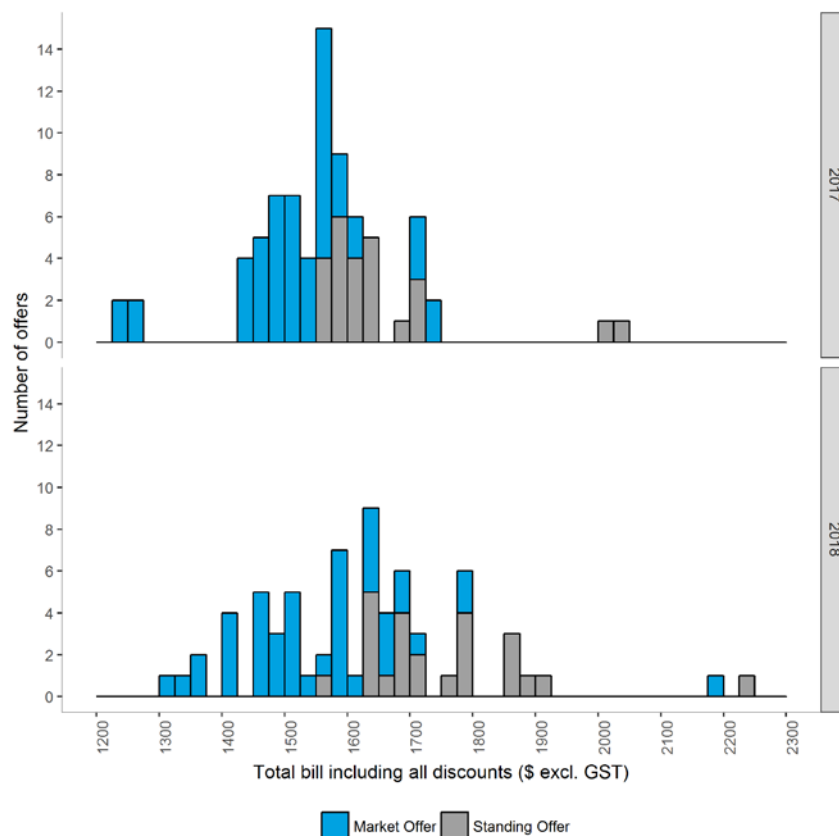
The Commission examined a range of possible bill outcomes for a representative Queensland consumer.⁴⁶⁴ Table F.5 shows the differences between the median standing offers and cheapest market offers for each network supply area.

Table F. 5 Range of bill outcomes available for a representative consumer

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
Energex	\$1,669	\$1,165	\$504 (30%)
Ergon	\$1,466	\$1,404	\$62 (4%)

Figure F.1 shows the range of bills outcomes for a representative consumer in the Energex network supply area, as well as the number of market offers (in blue) and standing offers (in grey) that would yield each outcome.

Figure F.1 Range of bills for representative electricity residential customer in Queensland (Energex supply area) - market and standing offers



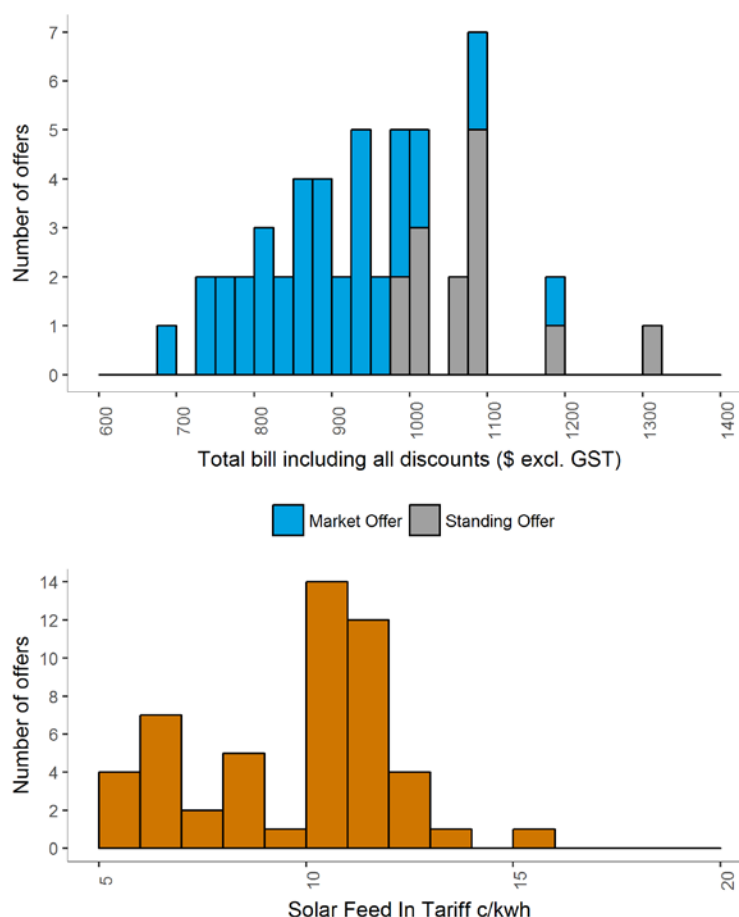
⁴⁶⁴ With an annual consumption of 4,434 kWh and an annual controlled load of 806 kWh.

Offers to consumers with rooftop solar systems

The Commission analysed the range of bill outcomes available for a representative Queensland consumer with a 3kW solar PV system on a flat tariff.⁴⁶⁵ The solar customer is assumed to have the same consumption profile as a non-solar customer.

Figure F.2 shows the total bill outcomes for customers in South East Queensland and the number of markets offers available to solar. The chart also shows the number and size of the solar feed-in tariffs available. Notably, customers with rooftop solar systems tend to have significantly lower total bills comparing to non-solar customers. The majority of solar offers include feed-in-tariff between 10 c/kWh and 12 c/kWh.

Figure F.2 Range of bills for representative electricity residential customer in South East Queensland (Energen supply area) – solar offers, feed-in-tariffs



⁴⁶⁵ In this year's review the methodology of calculating bill outcomes available for a consumer with rooftop solar was improved by incorporating self-consumption levels and solar exports.

Offers to (non-solar) small business consumers

The Commission examined the range of bill outcomes for a representative Queensland small business consumer⁴⁶⁶. Table F.6 shows the differences between the median standing offers and cheapest market offers for each network supply area.

Table F.6 Range of bill outcomes available in the electricity networks for a small business consumer

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
Energex	\$5,389	\$3,237	\$2,152 (40%)
Ergon	\$5,317	\$4,858	\$459 (9%)

Residential gas offers

The AEMC examined the range of bill outcomes available in two gas network regions of Queensland.⁴⁶⁷ The results are summarised in Table F.7 below.

Table F.7 Range of bill outcomes available in the gas network regions of Queensland

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
AGN - Brisbane and Riverview	\$593	\$562	\$31 (5%)
Allgas Energy - Southern suburbs	\$653	\$608	\$45 (7%)

⁴⁶⁶ With an annual consumption of 17,500 kWh.

⁴⁶⁷ There are several gas networks in Queensland that have not been included in the table. Bills have been constructed using a consumption level of 7,366MJ per annum.

F.2 New South Wales

As of May 2018, there were 23 retail electricity businesses (28 electricity brands) in New South Wales. These brands supply approximately 3.42 million small electricity customers (as of December 2017). These retailers include the new entrants into the NEM; amaysim Energy and Energy Locals.

There were nine gas retail businesses (12 gas retail brands) in May 2018. These brands are supplying approximately 1.36 million small gas customers (as of December 2017). There were a number of new entrants in the NSW gas market in the past year. These include the brands of Alinta Energy, Click Energy and Simply Energy who expanded into the gas market, and new entrant amaysim Energy.

Full retail contestability was introduced for electricity and gas customers in 2002, with the NSW Government removing retail price regulation for electricity on 1 July 2014 and for gas on 1 July 2017. The prices of standard and market contracts are determined by retailers and monitored by Independent Pricing and Regulatory Tribunal.

NSW adopted the NECF in July 2013 with a number of variations.⁴⁶⁸

Table F.8 Summary of market indicators: electricity

Indicator		Comments
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none"> A number of retailers commented that the NSW SPC is an additional requirement outside the NECF, and is an example of jurisdictional divergence which is a barrier to entry and expansion.
	Independent rivalry	<ul style="list-style-type: none"> Market concentration declined slightly by 158 points on the HHI to 2,556. New South Wales remains the second most competitive electricity market in the NEM based on HHI, as it has been since 2011.
Market conduct	Residential consumer engagement and activity	<ul style="list-style-type: none"> Customer engagement across New South Wales remained stable in the past year with slightly more customers switching retailers (19.3 per cent in 2017 compared to 17.2 per cent in 2016) and slightly less consumers indicating an intention to switch retailers in the next 12 months (22 per cent in April 2017 compared to 18 in April 2018). The main reason stated by consumers for switching was they searched for a better deal on a comparison website (36 per cent) and/or were not satisfied with the value for money from their retailer (35 per cent). Residential consumer confidence decreased in 2018. In April 2018, compared to April 2017, confidence that: <ul style="list-style-type: none"> the energy market is working in consumers' long-term interests was 25 per cent (down 13 per

⁴⁶⁸ A full set of New South Wales jurisdictional specific modifications, savings and transitional and opt-in provisions can be found in the AEMC Guide to the NECF webpage, www.aemc.gov.au/regulation/energy-rules/resources-stakeholders/guide-application-necf.

Indicator		Comments
		<p>cent)</p> <ul style="list-style-type: none"> — they can make good decisions was 59 per cent (down 13 per cent) — they can access easily understood information was 49 per cent (down 13 per cent).
	Business consumer engagement and activity	<ul style="list-style-type: none"> • Business engagement with the electricity sector may have fallen in the past year with fewer businesses intending to switch, or having actively investigated different energy options in the past 12 months. There was a reduction in business propensity to switching from 54 per cent of the businesses surveyed in 2018 compared to 69 per cent in 2017. This may be due to a higher number of businesses that have already switched, with the number of business consumers who have switched increasing by eight per cent to 28 per cent. • The level of confidence among NSW businesses to find the right information remained at about 70 per cent.
	Retailer pricing strategy	<ul style="list-style-type: none"> • Conditional discounting from varying base rates is still the most common form of retailer pricing strategy • There are some alternative and innovative pricing offers available, but they are limited in number • Some features of electricity offers in 2018 were: <ul style="list-style-type: none"> — 50 per cent of offers had conditional discounts — 27 per cent of offers had guaranteed discounts — 24 per cent of offers had no discounts.⁴⁶⁹
	Retail price spread	<ul style="list-style-type: none"> • By switching from the median standing offer to the cheapest market offer residential consumers can save between \$365 and \$411, while small business customers can save between 26 and 35 per cent off their annual bill, depending on their DNSP.
Market outcomes/performance	Residential consumer outcomes	<ul style="list-style-type: none"> • Residential consumer satisfaction has generally decreased in the past year. As of April 2018, compared with April 2017, satisfaction with: <ul style="list-style-type: none"> — the level of competition was 45 per cent (down 11 per cent) — customer service from electricity retailers was 65 per cent (up five per cent) — the value for money of electricity retailers was 46 per cent (down eight per cent). • Complaints to retailers decreased significantly in

⁴⁶⁹ AEMC analysis of offers taken from *Energy Made Easy*. Note: offers can have both conditional and guaranteed discounts at the same time and therefore percentage can be higher than 100 per cent.

Indicator		Comments
		<p>2015/16 to 2016/17.⁴⁷⁰ Complaints to the Ombudsman increased by one per cent in 2016/17. There have been reports by the EWON that complaints have increased in the later half of 2017 due to the price increases in July 2017.</p> <ul style="list-style-type: none"> The number of electricity customers on hardship programs between June 2016 and June 2017 increased from 23,955 to 25,604 (a seven per cent increase). Electricity disconnection rates have been decreasing since 2013/14 when there was 32,940 disconnections to 27,380 in 2016/17.
	Business consumer outcomes	<ul style="list-style-type: none"> A number of business satisfaction metrics have decreased in the past year. Satisfaction in 2018, compared to 2017, with: <ul style="list-style-type: none"> their current electricity provider was 51 per cent (down 17 per cent) customer service from electricity retailers was 58 per cent (down six per cent) the value for money of electricity was 41 per cent (down 12 per cent) the level of competition was 47 per cent (down 22 per cent). There has been a reduction of complaints to retailers by 31 per cent from 2015/16 to 2016/17. There was a 31 per cent increase in business disconnection rates in 2016/17 from 3,107 to 2,137. New South Wales had the largest decrease in business disconnection rates in the past year.
	Retailer outcomes	<ul style="list-style-type: none"> The gross margin of New South Wales (and Australian Capital Territory) small customer electricity bills of the Big 3 increased by three per cent from 2015/16 to 21 per cent in 2016/17.

Table F.9 Summary of market indicators: gas

Indicator		Comments
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none"> Retailers noted that it had become slightly easier to get access to wholesale gas contracts over the past year, after the Prime Minister's gas roundtable.
	Independent rivalry	<ul style="list-style-type: none"> New South Wales is the third most competitive gas market with HHI decreasing by 220 points in 2017 to 3,599.

⁴⁷⁰ The AER has noted this is mainly due to the reduction in complaints reported by Origin Energy which has changed its complaints recording method to be in line with the other retailers.

Indicator		Comments
Market conduct	Residential consumer engagement and activity	<ul style="list-style-type: none"> Gas customer engagement has increased in the past year with more consumers switching retailers (14.1 per cent in 2017 compared to 9.8 per cent in 2016). Residential consumer confidence and engagement has decreased in 2018. Refer to Table F.8.
	Business consumer engagement and activity	<ul style="list-style-type: none"> For business consumer engagement and confidence information refer to table F.8.
	Retailer pricing strategy	<ul style="list-style-type: none"> There has been little to no innovation regarding offerings in the gas retail market. Some features of gas offers in 2018 were: <ul style="list-style-type: none"> — 49 per cent of offers had conditional discounts — 41 per cent of offers had guaranteed discounts — 12 per cent of offers had no discounts.⁴⁷¹
	Retail price spread	<ul style="list-style-type: none"> By switching from the median standing offer to the cheapest market offer residential consumers can save between \$92 and \$222, depending on their DNSP.
Market outcomes/performance	Residential consumer outcomes	<ul style="list-style-type: none"> Residential consumer satisfaction has generally increased in 2018. In April 2018, compared with April 2017, satisfaction with: <ul style="list-style-type: none"> — customer service from gas retailers was at 67 per cent (up five per cent) — the value for money of gas was at 64 per cent (equal to April 2017). The number of gas customers on hardship programs between June 2016 and June 2017 decreased from 7,065 to 6,627. The average debt of customer on entry into hardship programs increased from \$614 in 2015/16 to \$817 in 2016/17. Gas disconnection rates have decreased over the past year (from 1.1 per cent in 2016 to 0.8 per cent in 2017).
	Business consumer outcomes	<ul style="list-style-type: none"> Complaints and disconnections data for electricity and gas is the same as discussed above in Table F.8. Gas disconnection rates have decreased over the past year (from 273 in 2015/16 to 183 in 2016/17).

⁴⁷¹ AEMC analysis of offers taken from Energy Made Easy. Note: offers can have both conditional and guaranteed discounts at the same time and therefore percentage can be higher than 100 per cent.

Summary of key market statistics

Table F.10 New South Wales: Electricity

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of small customers	As at end of previous financial year		3.27m	3.32m	3.36m	3.39m	AER retail statistics
	Number of retail brands/ businesses	As at end of previous calendar year	15 / 13	20 / 16	26 / 22	26 / 22	28 / 23	AEMC analysis, AEMO data
Independent rivalry	Market concentration (HHI)	As at end of previous calendar year	3,170	2,988	2,854	2,714	2,556	AEMC analysis, AER data
	Market share of Big 3	As at end of previous calendar year	96%	93%	91%	89%	85%	AEMC analysis, AER data
Customer activity	Small customers on market offers	As at end of previous calendar year	61%	67%	71%	77%	81%	AER retail statistics
Competitive retail prices*	Range of bill outcomes – Ausgrid	Between January and March		\$1,412-\$1,929 (\$517 difference)	\$1,051-\$1,612 (\$561 difference)	\$1,165-\$1,847 (\$682 difference)	\$1,177-\$1,989 (\$812 difference)	AEMC analysis, Energy Made Easy website

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
	Range of bill outcomes – Endeavour Energy	Between January and March		\$1,414-\$1,963 (\$549 difference)	\$1,047-\$1,458 (\$411 difference)	\$1,132-\$1,870 (\$738 difference)	\$1,118-\$2,051 (\$932 difference)	AEMC analysis, Energy Made Easy website
	Range of bill outcomes – Essential Energy	Between January and March		\$1,849-\$2567 (\$718 difference)	\$1,343-\$1,984 (\$641 difference)	\$1,477-\$2,441 (\$964 difference)	\$1,347-\$2,254 (\$907 difference)	AEMC analysis, Energy Made Easy website

* 2018 data is based on a representative consumer with an annual consumption of 4,215 kWh and no controlled load. 2017 data is based on a representative customer in New South Wales with annual consumption of 5936kWh where 1900 kWh is controlled load, as at 5 January, 2017. 2016 data is based on flat tariff offers as at 27 February 2016, without GreenPower, for a representative customer consumption of 5936kWh annually, of which 1900kWh is controlled load. 2015 based on a representative customer consumption of 6500kWh annually. Range of bill outcomes is based on the least to the most expensive (standing or market) offer available by DNSP area.

Table F.11 New South Wales: Gas

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of customers	As at end of previous financial year	1.19m	1.23m	1.26m	1.30m	1.33m	AER retail statistics
	Number of retail brands/businesses	As at end of previous calendar year	5 / 4	6 / 5	8 / 6	8 / 6	12/9	AEMC analysis, AEMO data
Independent rivalry	Market concentration (HHI)	As at end of previous calendar year	5,234	4,293	3,824	3,820	3,600	AEMC analysis, AER data
	Market share of Big 3	As at end of previous financial year	100%	99%	97%	96%	93%	AEMC analysis, AER data
Customer activity	Small customers on market offers	As at end of previous calendar year	70%	75%	79%	82%	85%	AER retail statistics
Competitive retail prices	Range of bill outcomes-Jemena Costal Network	Q1 of the year of review				\$744– \$893 (\$149 difference)	\$782- \$1,090 (\$308 difference)	AEMC analysis, Energy Made Easy website

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
	Range of bill outcomes- Jemena Country Network	Q1 of the year of review				\$742-\$838 (\$96 difference)	\$789-\$976 (\$187 difference)	AEMC analysis, Energy Made Easy website
	Range of bill outcomes- ActewAGL Shoalhaven *	Q1 of the year of review					\$955	AEMC analysis, Energy Made Easy website

* There was only one offer for gas in the ActewAGL - Shoalhaven area.

Note: range of bill outcomes is based on the least to the most expensive offer available (market and standing offer) by gas distribution area.

Offers to (non-solar) consumers

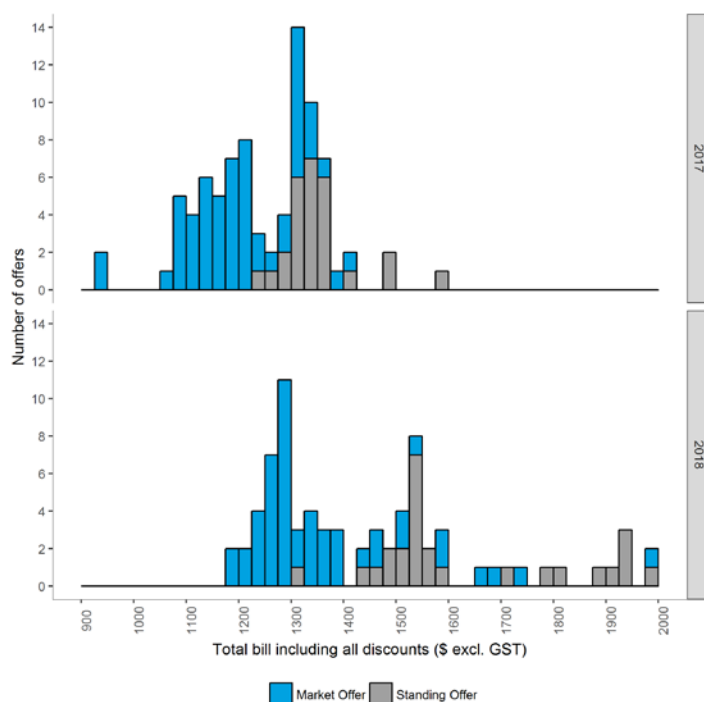
The Commission examined a range of possible bill outcomes for a representative New South Wales customer, which is presented in Table F.12.⁴⁷²

Table F.12 Range of bill outcomes available for a representative consumer

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
Ausgrid	\$1,543	\$1,177	\$365 (24%)
Endeavour	\$1,529	\$1,118	\$411 (27%)
Essential	\$1,741	\$1,347	\$394 (23%)

Figure F.3, Figure F.4 and Figure F.5 shows the range of bills outcomes and the number of market and standing offers for a representative consumer in the Ausgrid, Endeavour Energy, and Essential Energy network supply areas respectively for 2017 and 2018. There has been a notable shift in the spread of offers across all networks, in line with the increases in retail electricity prices discussed throughout the report. Further, the spread of standing offers has increased considerably since last year. This could be related to the increase in the size of discounts over the past year.

Figure F.3 Range of bills for representative residential electricity customer in NSW (Ausgrid supply area) – market and standing offers



⁴⁷² With an annual consumption of 4,215 kWh and no controlled load.

Figure F.4 **Range of bills for representative electricity residential customer in NSW (Endeavour Energy supply area) – market and standing offers**

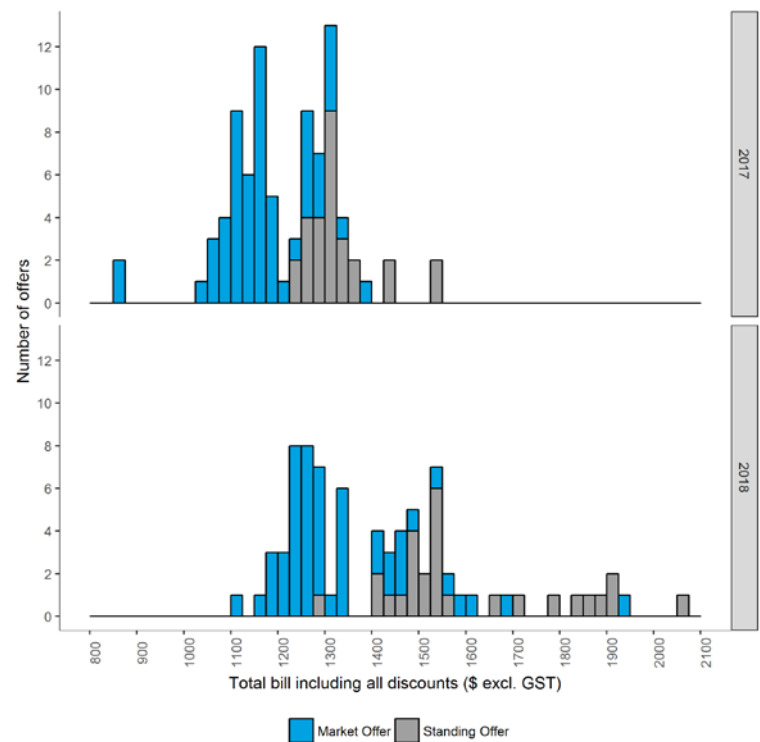
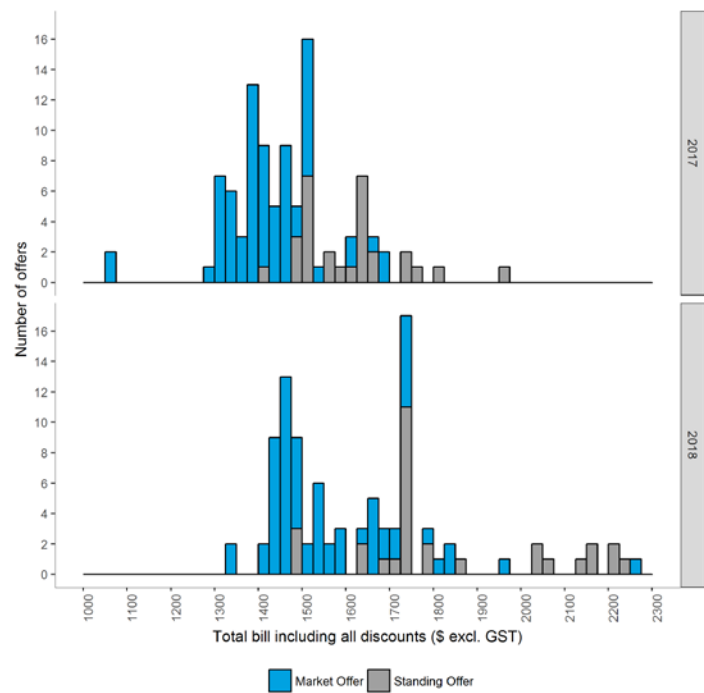


Figure F.5 **Range of bills for representative residential electricity customer in NSW (Essential Energy supply area) – market and standing offers**

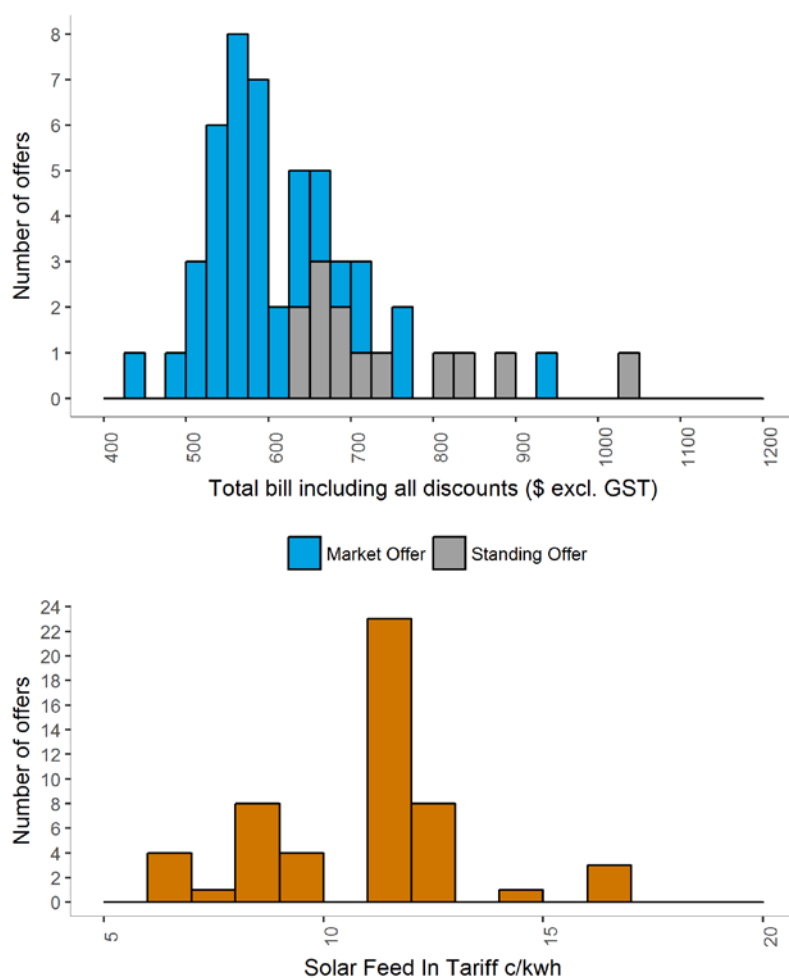


Offers to consumers with rooftop solar systems

The Commission analysed the range of bill outcomes available for a representative New South Wales consumer with a 3kW solar PV system on a flat tariff.⁴⁷³ This solar customer is assumed to have the same consumption profile as a non-solar customer.

Figure F.6, Figure F.7 and Figure F.8 shows the total bill outcomes and the number of markets offers available to solar customers in the Ausgrid, Endeavour Energy and Essential Energy network supply areas. The charts also show the number and size of the solar feed-in tariffs available. The majority of solar offers include feed-in-tariff between 11 c/kWh and 12 c/kWh.

Figure F.6 Range of bills for representative electricity residential customer in New South Wales (Ausgrid supply area) – solar offers, feed-in-tariffs



⁴⁷³ In this year's review the methodology of calculating bill outcomes available for a consumer with rooftop solar was improved by incorporating self-consumption levels and solar exports.

Figure F.7 **Range of bills for representative electricity residential customer in New South Wales (Endeavour Energy supply area) – solar offers, feed-in-tariffs**

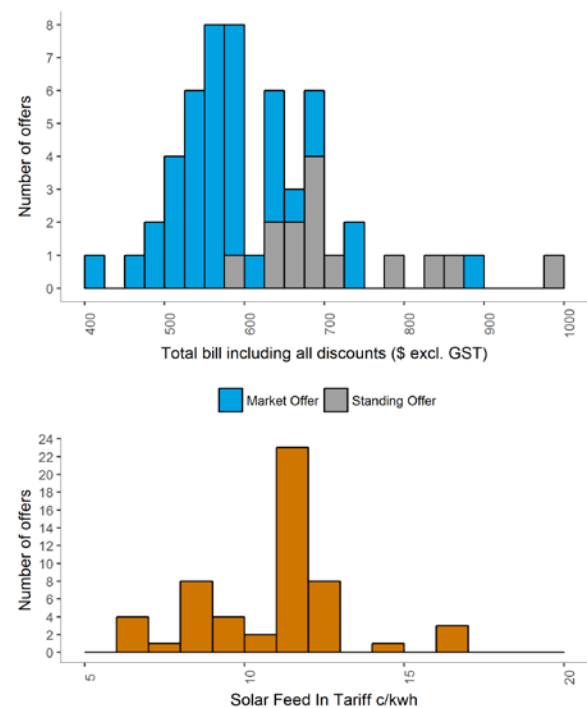
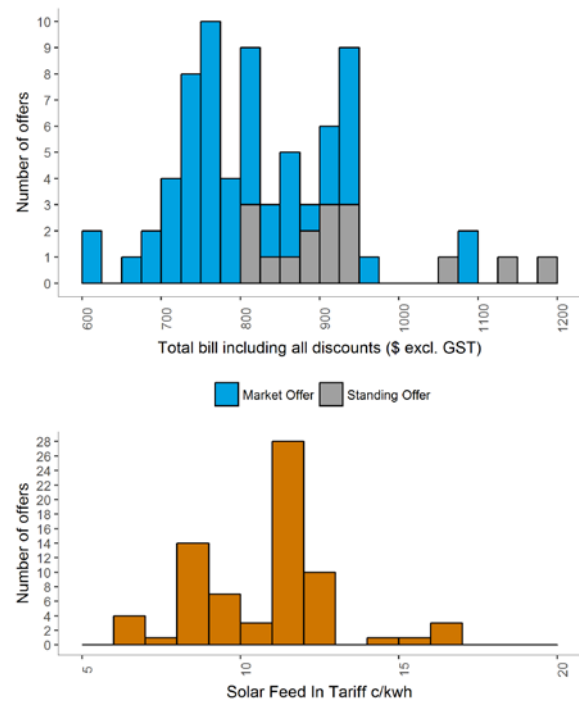


Figure F.8 **Range of bills for representative electricity residential customer in New South Wales (Essential Energy supply area) – solar offers, feed-in-tariffs**



Offers to (non-solar) small business consumers

The Commission examined the range of bill outcomes for a representative New South Wales small business consumer.⁴⁷⁴ Table F.13 shows the differences between the median standing offers and cheapest market offers for each network supply area.

Table F.13 Range of bill outcomes available for a small business consumer

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
Ausgrid	\$6,732	\$4,521	\$2,211 (33%)
Endeavour Energy	\$5,451	\$4,039	\$1,412 (26%)
Essential Energy	\$7,280	\$4,698	\$2,582 (35%)

Residential gas offers

The AEMC examined the range of bill outcomes available in the gas network regions of New South Wales. The results are summarised in Table F.14 below.

Table F.14 Range of bill outcomes available in the gas network regions of New South Wales

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
Jemena Coastal Network	\$966	\$782	\$185 (19%)
Jemena Country Network	\$966	\$789	\$177 (18%)
ActewAGL Shoalhaven	\$955	N/A	N/A

Figure F.9, F.10 and F.11 provides the range of bill outcomes and the number of market and standing offers for a representative residential gas consumer in the Jemena Coastal, Jemena Country and ActewAGL Shoalhaven network supply areas.⁴⁷⁵

⁴⁷⁴ With an annual consumption of 17,500 kWh

⁴⁷⁵ There are several gas networks in New South Wales that have not been included in the table. Bills have been constructed using a consumption level of 24,387MJ per annum.

Figure F.9 **Range of bills for representative residential gas customer in NSW (Jemena coastal network) – market and standing offers**

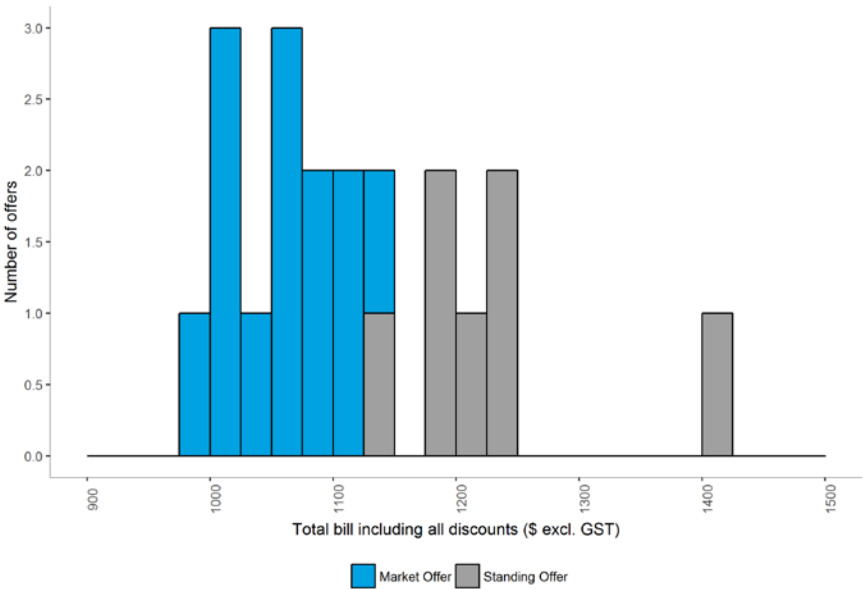
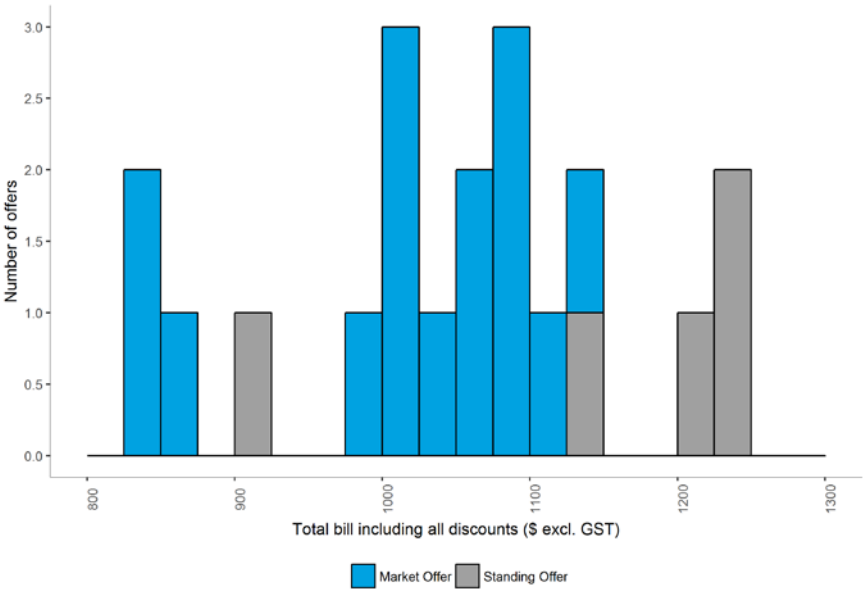


Figure F.10 **Range of bills for representative residential gas customer in NSW (Jemena country network) – market and standing offers**



F.3 Australian Capital Territory

The Australian Capital Territory's electricity market is the smallest in the NEM, and its gas market is the second smallest. In May 2018, there were five electricity retail companies and brands. These brands supply 182,621 small electricity customers, as of December 2017. There were also three gas retail businesses and brands in May 2017. These brands supply 122,065 small gas customers, as of December 2017.

The Australian Capital Territory introduced full retail contestability for gas in 2002 and for electricity in 2003. At this time, it removed retail price regulation for gas but retained it for electricity. The Independent Competition and Regulatory Commission regulate changes to standing offers electricity prices.

The Australian Capital Territory adopted the NECF on 1 July 2012.

Table F.15 Summary of market indicators: electricity

Indicator		Comments
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none"> The continuation of retail price regulation in the Australian Capital Territory, and the size of market, was again cited by retailers as a barrier to entry.
	Independent rivalry	<ul style="list-style-type: none"> Market concentration declined by 312 points on the HHI points to 8,002 in 2017. The Australian Capital Territory remains the second most concentrated market in the NEM based on HHI. As of December 2017, ActewAGL's share of the market was 90 per cent.
Market conduct	Residential consumer engagement and activity	<ul style="list-style-type: none"> The Australian Capital Territory has the lowest level of switching outside Tasmania; however switching has increased from around one per cent in 2014 to six per cent in 2017. Among NEM jurisdictions the Australian Capital Territory has the lowest rate of consumers intending to switch in the next 12 months, at 16 per cent. However, this was a four per cent increase from the last year. Residential consumer sentiment has decreased in 2018. In April 2018, compared to April 2017, consumer confidence that: <ul style="list-style-type: none"> the energy market is working in consumers' long-term interests was 14 per cent (down 14 per cent) they can make good decisions was 54 per cent in (down seven per cent) they can access easily understood information was 41 per cent - the lowest rate in the NEM (down 13 per cent).
	Business consumer engagement and activity	<ul style="list-style-type: none"> In 2018, businesses were significantly more likely to report that they have switched either their electricity/gas provider or plan in the past 5 years (39 per cent in 2018, compared to 11 per cent in 2017). There was a decrease in businesses who feel confident in

Indicator		Comments
		finding the right information to help them choose an energy plan. In 2018, 76 per cent were very or fairly confident, which was a drop of 12 per cent from 2017.
	Retailer pricing strategy	<ul style="list-style-type: none"> • There are some alternative and innovative pricing offers available, but they are limited in number. • Some features of electricity offers in 2018 were: <ul style="list-style-type: none"> — 34 per cent of offers had conditional discounts — 50 per cent of offers had guaranteed discounts — 20 per cent of offers had no discounts.⁴⁷⁶
	Retail energy price offer spread	<ul style="list-style-type: none"> • By switching from the median standing offer to the cheapest market offer residential consumers can save \$273, while small business customers can save 19 per cent off their annual bill.⁴⁷⁷
Market outcomes/performance	Residential consumer outcomes	<ul style="list-style-type: none"> • Residential consumer satisfaction has decreased in the past year. In April 2018, compared to April 2017, consumer satisfaction with: <ul style="list-style-type: none"> — the level of competition was 20 per cent (down 17 per cent) — customer service from electricity retailers was 51 per cent (down five per cent) — the value for money of electricity retailers was 37 per cent (down 11 per cent). • There was a 12 per cent reduction in complaints to retailers (electricity and gas) and an 18 per cent reduction to the Ombudsmen (electricity) from 2015/16 to 2016/17.⁴⁷⁸ There have been reports that complaints have increased in the later portion of 2017 due to the price increases in July. • The number of electricity customers on hardship programs between June 2016 and June 2017 increased slightly from 601 to 659. • Electricity disconnection rates have also increased in the past year by 10 per cent (from 388 in 2015/16 to 427 in 2016/17).
	Business consumer outcomes	<ul style="list-style-type: none"> • A number of business satisfaction metrics have decreased in the past year (from January-February 2017 to February-March 2018). Satisfaction with:

⁴⁷⁶ AEMC analysis of offers taken from *Energy Made Easy*. Note: offers can have both conditional and guaranteed discounts at the same time and therefore percentage can be higher than 100 per cent.

⁴⁷⁷ Based on a representative small business and residential customers with annual consumption of 17,500 kWh and 7,151kWh respectively in ActewAGL supply area.

⁴⁷⁸ AER noted this reduction may be due to the change in methodology in the way Origin records complaints to correct its over-capture of complaint numbers. AER, *Annual Report on Compliance and Performance of the Retail Energy Market 2016–17*, AER, Melbourne, 2017.

Indicator		Comments
		<ul style="list-style-type: none"> — their current electricity provider was 48 per cent (a 16 per cent decrease) — customer service from electricity retailers was 53 per cent (a decrease of 17 per cent) — the value for money of electricity was 39 per cent (an 18 per cent decrease) — the level of competition was 26 per cent (a 22 per cent decrease). • There has been a reduction in complaints to retailers by 19 per cent from 2015/16 to 2016/17.⁴⁷⁹ • There was no change in business customer disconnection rates in 2016/17.
	Retail outcomes	<ul style="list-style-type: none"> • The gross margin of Australian Capital Territory (and New South Wales) small customer electricity bills of the Big 3 retailers increased by three per cent from 2015/16 to 21 per cent in 2016/17.

Table F.16 Summary of market indicators: gas

Indicator		Comments
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none"> • Entry into gas has been static over the short-term with no new entrants since 2016. • Retailers suggest that generally additional gas retailers are being deterred from entering the market due to the limited availability and price of gas.
	Independent rivalry	<ul style="list-style-type: none"> • The Australian Capital Territory has seen a rapid this decrease in the HHI (by 734 points) since 2015, although it still remains a highly concentrated market at 5,752 points in 2017.
Market conduct	Residential consumer engagement and activity	<ul style="list-style-type: none"> • Residential consumer confidence has decreased in 2018. For more information see Table F.15. • Customer engagement remained stable in the past year with slightly more customers switching retailers (4.5 per cent in 2017 compared to 3.4 per cent in 2016). The switching rate in the Australian Capital Territory is the lowest of all jurisdictions, outside Tasmania.
	Business consumer engagement and activity	<ul style="list-style-type: none"> • For engagement and confidence refer to Table F.15.
	Retailer pricing	<ul style="list-style-type: none"> • There has been little to no innovation regarding offerings

⁴⁷⁹ AER noted this reduction may be due to the change in methodology in the way Origin records complaints to correct its over-capture of complaint numbers. AER, *Annual Report on Compliance and Performance of the Retail Energy Market 2016–17*, AER, Melbourne, 2017.

Indicator		Comments
	strategy	<p>in the electricity or gas retail markets.</p> <ul style="list-style-type: none"> Some feature of gas offers in 2018 were: <ul style="list-style-type: none"> — 48 per cent of offers had conditional discounts — 44 per cent of offers had guaranteed discounts — 15 per cent of offers had no discounts.
	Retail energy price offer spread	<ul style="list-style-type: none"> Switching from the median standing offer to the cheapest market offer, residential consumers can save \$192.
Market outcomes/ performance	Residential consumer outcome	<ul style="list-style-type: none"> Residential consumer satisfaction has decreased in the past year. In April 2018, compared to April 2017, consumer satisfaction with: <ul style="list-style-type: none"> — customer service from gas retailers was 56 per cent (down nine per cent) — the value for money of gas retailers was 42 per cent (down 17 per cent). The number of gas customers on hardship programs between June 2016 and June 2017 decreased slightly from 601 to 552. Gas disconnection rates for households have decreased by 30 per cent over the past year from 1,403 to 423.
	Business consumer outcome	<ul style="list-style-type: none"> Gas disconnection rates for businesses have decreased by 19 per cent over the past year from 744 to 599.

Summary of key market statistics

Table F.17 Australian Capital Territory: Electricity

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of small customers	As at end of previous financial year	0.166m	0.17m	0.173m	0.176m	0.18m	AER retail statistics
	Number of retail brands / businesses	As at end of previous calendar year	3 / 3	4 / 4	4 / 4	5 / 5	5 / 5	AEMC analysis, AEMO data
Independent rivalry	Market concentration (HHI)	As at end of previous calendar year	9,197	9,165	8,702	8,315	8,002	AEMC analysis, AEMO data
	Market share of Big 3	As at end of previous calendar year	100%	100%	100%	100%	99.87%	AEMC analysis, AEMO data
Customer activity	Small customers on market offers	As at end of previous calendar year	19%	22%	24%	25%	30%	AER retail statistics
Competitive retail prices*	Range of bill outcomes – Evoenergy	Between January and February		\$1,241–\$1,568 (\$327 difference)	\$1,239–\$1,524 (\$285 difference)	\$1,291–\$1,455 (\$164 difference)	\$1,477–\$1,914 (\$437 difference)	AEMC analysis, Energy Made Easy website

* 2018 data is based on a representative customer in Australian Capital Territory. Range of bill outcomes is based on the least to the most expensive (standing or market) offer available in the DNSP area. Bills are based on data extracted from Government comparison websites: Energy Made Easy on 5 January 2017 and 21 March 2018.

Table F.18 Australian Capital Territory: Gas

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of customers ('000)	As at end of previous financial year	115	115	119	120	120	AER retail statistics
	Number of retail brands / businesses	As at end of previous calendar year	2 / 2	3 / 3	3 / 3	3 / 3	3 / 3	AEMC analysis, AEMO data
Independent rivalry	Market concentration (HHI)	As at end of previous financial year	9,250	9,232	8,837	8,403	8,104	AEMC analysis, AER data
	Market share of ActewAGL	As at end of previous financial year	96%	96%	94%	92%	91%	AEMC analysis, AER data
Customer activity	Small customers on market offers	As at end of previous calendar year	21%	21%	24%	23%	32%	AER retail statistics
Competitive retail prices	Range of bill outcomes- Evoenergy	Between January and March				\$785-\$860 (\$75 difference)	\$1,226-\$1,464 (\$238 difference)	AEMC analysis, Energy Made Easy website

Offers to (non-solar) consumers

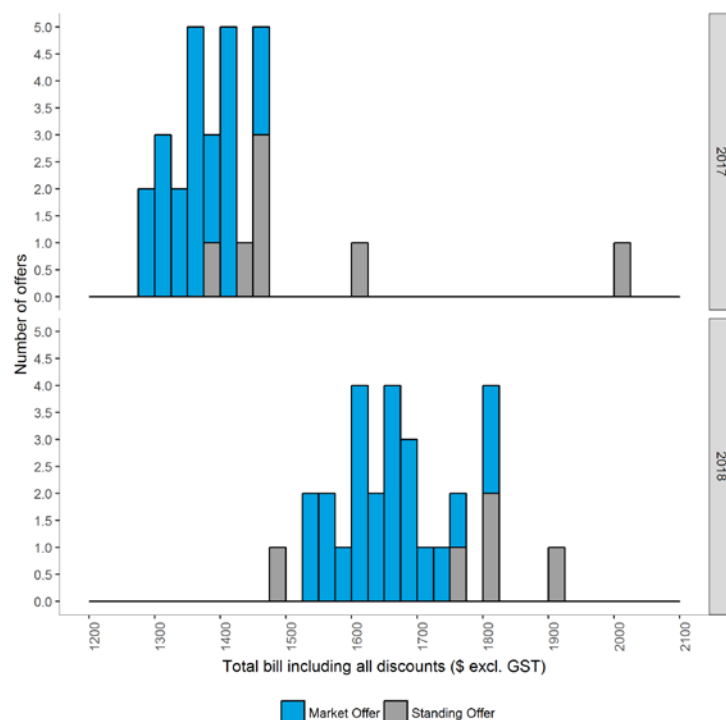
The Commission examined a range of possible bill outcomes for a representative Australian Capital Territory customer.⁴⁸⁰ Table F.19 shows the differences between the median standing offers and cheapest market offers for the Evoenergy network supply area.

Table F.19 Range of bill outcomes available for a representative consumer

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
Evoenergy	\$1,814	\$1,541	\$273 (15%)

Figure F.11 shows the range of bills outcomes for a representative consumer in the Evoenergy network supply area, as well as the number of market offers (in blue) and standing offers (in grey) that would yield each outcome.

Figure F.11 Range of bills for representative electricity residential customer in the Australian Capital Territory (Evoenergy supply area) - market and standing offers



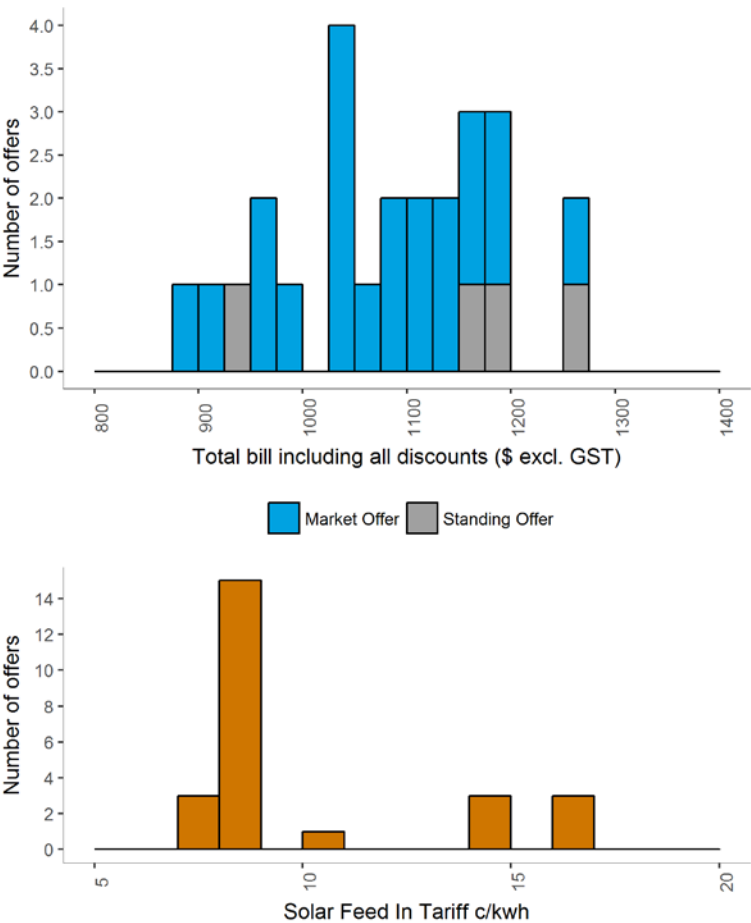
⁴⁸⁰ With an annual consumption of 7,151 kWh and no controlled load

Offers to consumers with rooftop solar systems

The Commission analysed the range of bill outcomes available for a representative Australian Capital Territory consumer with a 3kW solar PV system on a flat tariff.⁴⁸¹ The solar customer is assumed to have the same consumption profile as a non-solar customer.

Figure F.12 shows the total bill outcomes for customers in the Evoenergy network supply area and the number of markets offers available to solar customers (in orange) and those available to non-solar customers (in blue). The chart also shows the number and size of the solar feed-in tariffs available. Notably, the number of solar offers and non-solar offers, and the degree of price dispersion in these offers are approximately the same. The majority of solar offers include feed-in-tariff between eight c/kWh and nine c/kWh.

Figure F.12 **Range of bills for representative electricity residential customer in the Australian Capital Territory (Evoenergy supply area) – solar offers, feed-in-tariffs**



⁴⁸¹ In this year’s review the methodology of calculating bill outcomes available for a consumer with rooftop solar was improved by incorporating self-consumption levels and solar exports.

Offers to (non-solar) small business consumers

The Commission examined the range of bill outcomes for a representative Australian Capital Territory small business consumer.⁴⁸² Table F.20 shows the differences between the median standing offers and cheapest market offers for the Evoenergy network supply area.

Table F.20 Range of bill outcomes available for a small business consumer

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
Evoenergy	\$5,197	\$4,228	\$969 (19%)

Residential gas offers

The AEMC examined the range of bill outcomes available in the gas network regions of the Australian Capital Territory. The results are summarised in Table F.21 below.⁴⁸³

Table F.21 Range of bill outcomes available in the gas network region of the Australian Capital Territory

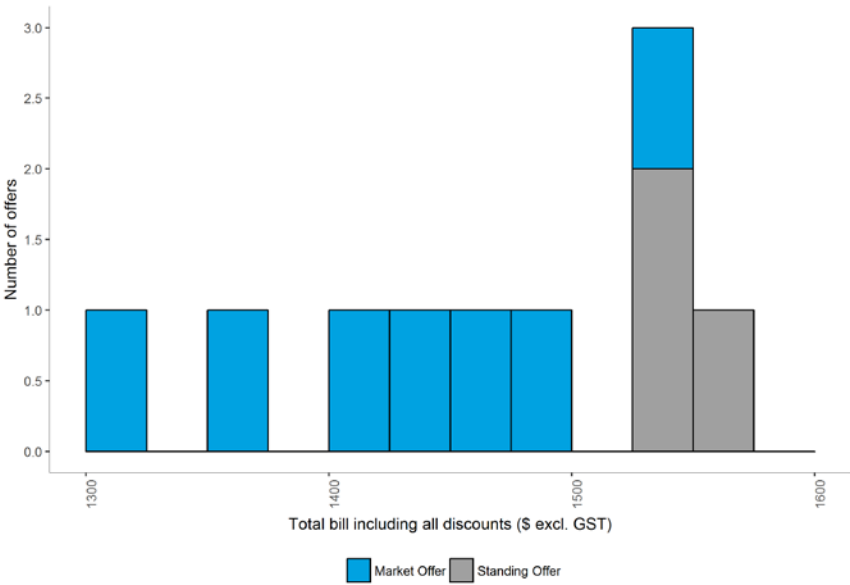
Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
Evoenergy	\$1,419	\$1,226	\$192 (14%)

Figure F.13 provides the range of bill outcomes for a representative residential gas consumer in the Evoenergy network supply area, and indicates the number of market offers (in blue) and standing offers (in grey) that would yield each outcome.

⁴⁸² With an annual consumption of 17,500 kWh

⁴⁸³ Bills have been constructed using a consumption level of 38,451MJ per annum.

Figure F.13 Range of bills for representative gas residential customer in the Australian Capital Territory (Evoenergy) - market and standing offers



F.4 Victoria

In May 2018, there were 21 electricity retail businesses (25 retail electricity brands). These brands are supplying approximately 2.74 million small electricity customers in Victoria (as of June 2017). One new retail electricity brand entered the market (amaysim Energy) and one retailer left the market (Online power and gas).

There were 12 retail gas businesses (15 retail gas brands). These brands supply approximately 1.98 million small gas customers (as of June 2017).⁴⁸⁴ There were two new entrants in the Victoria gas market in the past year. These include new state gas market entrants: amaysim Energy and Sumo Power.

Full retail contestability was introduced for both electricity and gas in 2002 and in January 2009, retail price regulation was removed for both markets.

Victoria has not adopted the NECF. Its retail energy markets are governed by the Victorian Energy Retail Code, which contains some provisions similar to the NECF.

Table F.22 Summary of market indicators: electricity

Indicator		Comments
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none"> Consistent with previous years, the most significant issues cited by nearly all retailers surveyed was the differences between Victorian regulatory arrangements and the rest of the NEM, and the resulting cost impacts. Of particular note to most retailers was the ESC's new payment difficulty framework. One retailer noted that some new retailers were holding off entering the market during the ESC's review. Another major concern for nearly all retailers was the Thwaites Review released in August 2017. Many argued that the re-regulation of prices would have a negative impact on competition and innovation.
	Independent rivalry	<ul style="list-style-type: none"> Market concentration declined by 45.6 points on the HHI to 1,550. Victoria continues to have the highest share of second-tier retailers.
Market conduct	Residential consumer engagement and activity	<ul style="list-style-type: none"> In 2017 Victoria had the highest rate of switching in the NEM with 27 per cent of customers switching (two per cent increase from 2016). The number of customers that indicated an intention to switch retailers in the next 12 months at 22 per cent, down two per cent from April 2017. Residential consumer confidence decreased in 2018. In April 2018, compared to April 2017, confidence that: <ul style="list-style-type: none"> the energy market is working in consumers' long-term interests was 26 per cent (down 11 per cent) they could make good decisions was 59 per cent (down

⁴⁸⁴ ESC, *Victorian Energy Market Report 2016-17 – Appendix: Performance of energy companies*. See: www.esc.vic.gov.au/document/energy/55678-victorian-energy-market-report-2016-17/.

Indicator		Comments
		<p>nine per cent)</p> <p>— they can access easily understood information was 50 per cent (down five per cent).</p>
	Business consumer engagement and activity	<ul style="list-style-type: none"> • 34 per cent of small business in Victoria reported that they switched either an energy company or plan (compared to 19 per cent in 2017). • There was a significant decline in the number of Victorian businesses who reported that they were currently looking for a better deal (three per cent, down from 14 per cent in 2017), however this result was consistent with 2015 and 2016 results (four per cent). • Confidence among businesses in their ability to find the right information dropped to 53 per cent from 63 per cent in 2017.
	Retailer pricing strategy	<ul style="list-style-type: none"> • Conditional discounting from varying base rates is still the most common form of retailer pricing strategy. As at March 2018, the highest discounts available on market offers were in Victoria at around 35 per cent off total bill and 47 per cent off usage rates. • There are some alternative and innovative pricing offers available, but they are limited in number. • Some features of electricity offers in 2018 were: <ul style="list-style-type: none"> — 62 per cent of offers had conditional discounts — 18 per cent of offers had guaranteed discounts — 22 per cent of offers had no discounts.⁴⁸⁵
	Retail energy price offer spread	<ul style="list-style-type: none"> • By switching from the median standing offer to the cheapest market offer residential consumers can save between \$574 and \$652, while small business customers can save between 38 and 46 per cent off their annual bill depending on their DNSP.
Market outcomes/performance	Residential consumer outcomes	<ul style="list-style-type: none"> • Residential consumer satisfaction has generally decreased in the past year. In April 2018, compared to April 2017, satisfaction with: <ul style="list-style-type: none"> — the level of competition was 50 per cent (down nine per cent) — customer service with electricity retailers was 63 per cent (up one per cent) — the value for money of electricity retailers was 46 per cent (down five per cent). • There was a 24 per cent reduction in complaints to Ombudsmen for electricity and gas from 2015/16 to 2016/17. Complaints to retailers also decreased by 13 per

⁴⁸⁵ AEMC analysis of offers is taken from *Victorian Energy Compare*. Note: offers can have both conditional and guaranteed discounts at the same time and therefore percentage can be higher than 100 per cent.

Indicator		Comments
		<p>cent from 2015/16 to 2016/17.</p> <ul style="list-style-type: none"> • EWOV highlighted that industry participants are successfully resolving less complex customer complaints allowing EWOV to deal with more complex and systematic issues. There have been reports that complaints have increase in the later portion of 2017 due to the price increases in December/January 2018. • The number of customers on hardship programs (electricity and gas) as at 30 June 2017 was 32,669, which was a four per cent increase from 30 June 2016. • Electricity disconnection rates have decreased in the past year by 12 per cent (28,589 in 2016/17 from 32,360 in 2015/16).
	Business consumer outcomes	<ul style="list-style-type: none"> • A number of business satisfaction metrics have changed. Businesses became more satisfied with customer service from electricity retailers and value for money of electricity. In 2018, compared to 2017, satisfaction with: <ul style="list-style-type: none"> — their current electricity provider was at 59 per cent (down 13 per cent) — customer service from electricity retailers was at 56 per cent (down ten per cent) — the value for money of electricity was at 45 per cent (up ten per cent) — the level of competition was at 71 per cent (up 16 per cent). • There was a 20 per cent decrease in business customer disconnection rates in 2016/17 from 4,319 to 3,434.
	Retail outcomes	<ul style="list-style-type: none"> • The gross margin of Victorian small customer electricity bills of the Big 3 retailers decreased by one per cent from 2015/16 to 23 per cent in 2016/17.

Table F.23 Summary of market indicators: gas

Indicator		Comments
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none"> • Retailers noted that it had become slightly easier to get access to wholesale gas contracts over the past year. • Two new retailers – amaysim Energy and Sumo Power - entered the gas market in Victoria in 2018.
	Independent rivalry	<ul style="list-style-type: none"> • Victoria continues to have a higher share of second-tier retailers compared to other jurisdictions. • Market concentration declined slightly by 79.86 points on the HHI to 1,873.
Market conduct	Residential consumer engagement and activity	<ul style="list-style-type: none"> • Residential consumer confidence and engagement has decreased in 2018. Refer to Table F.22. • Victoria has the highest switching rate in the NEM - 18 per cent in 2017 (two per cent increase comparing to 2016).

Indicator		Comments
	Business consumer engagement and activity	<ul style="list-style-type: none"> For more information refer to Table F.22.
	Retailer pricing strategy	<ul style="list-style-type: none"> There has been little to no innovation regarding offerings in the gas retail markets. Some feature of gas offers in 2018 were: <ul style="list-style-type: none"> — 60 per cent of offers had conditional discounts — 27 per cent of offers had guaranteed discounts — 15 per cent of offers were undiscounted.⁴⁸⁶
	Retail energy price offer spread	<ul style="list-style-type: none"> By switching from the median standing offer to the cheapest market offer residential consumers can save between \$25 and \$751, depending on their DNSP.
Market outcomes/ performance	Residential consumer outcome	<ul style="list-style-type: none"> Residential consumer satisfaction has decreased in the past year. In April 2018, compared to April 2017, satisfaction with: <ul style="list-style-type: none"> — customer service from gas retailers was at 65 per cent (down five per cent) — the value for money of gas retailers was at 57 per cent (down six per cent). Gas disconnection rates have decreased by 28 per cent over the past year to 17,494.
	Business consumer outcome	<ul style="list-style-type: none"> Gas disconnection rates have decreased by 26 per cent over the past year to 898.

⁴⁸⁶ Note that the offers shares may sum to greater than 100 per cent because some offers have both conditional discounts and unconditional discounts

Summary of key market statistics

Table F.24 Victoria: Electricity

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of small customers	As at end of previous financial year		2.63m	2.64m	2.69m	2.74m	AEMC analysis, ESC data
	Number of retail brands/businesses	As at end of previous calendar year	18 / 16	21 / 17	25 / 22	25 / 22	25 / 21	AEMC analysis, AEMO data
Independent rivalry	Market concentration (HHI)	As at end of previous calendar year	1,818	1,765	1,679	1,596	1,551	AEMC analysis, AEMO data
	Market share of Big 3	As at end of previous calendar year*	70%	65%	63%	61%	59%	AEMC analysis, AEMO data
Customer activity	Small customers on market offers	As at end of previous financial year		76%	82%	90%	92% (Residential: 93% Small business: 83%)	ESC Comparative Performance Report, Customer Service; Victorian Energy Market Report

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Competitive retail prices**	Range of bill outcomes – Jemena	Between October and February		\$1,234–\$1,800 (\$566 difference)	\$1,023–\$1,525 (\$502 difference)	\$939–\$1,737 (\$798 difference)	\$975–\$2,739 (\$1,764 difference)	AEMC analysis, Victoria Energy Compare website
	Range of bill outcomes – United Energy	Between October and February		\$1,193–\$1,683 (\$490 difference)	\$974–\$1,443 (\$469 difference)	\$824–\$1,638 (\$814 difference)	\$935–\$2,555 (\$1,620 difference)	AEMC analysis, Victoria Energy Compare website
	Range of bill outcomes – CitiPower	Between October and February		\$1,038–\$1,571 (\$533 difference)	\$857–\$1,336 (\$479 difference)	\$833–\$1,556 (\$723 difference)	\$898–\$2,472 (\$1,573 difference)	AEMC analysis, Victoria Energy Compare website
	Range of bill outcomes – Powercor	Between October and February		\$1,306–\$1,826 (\$520 difference)	\$1,048–\$1,545 (\$497 difference)	\$975–\$1,752 (\$777 difference)	\$1,004–\$2,722 (\$1,717 difference)	AEMC analysis, Victoria Energy Compare website
	Range of bill outcomes – AusNet Services	Between October and February		\$1,380–\$1,943 (\$563 difference)	\$1,131–\$1,787 (\$658 difference)	\$1,107–\$2,022 (\$915 difference)	\$1,087–\$3,108 (\$2,022 difference)	AEMC analysis, Victoria Energy Compare website

* Data for the 2018 review is from June 2017.

** Estimated bills are based on the consumption level of the "representative consumer". Range of bill outcomes is based on the least to the most expensive (standing or market) offer available by DNSP area.

Table F.25 Victoria: Gas

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of customers	As at end of previous financial year	1.9m (AEMO data)	1.9m (AEMO data)	1.9m	1.95m	1.98m	AEMC analysis, Essential Services Commission data
	Number of retail brands / businesses	As at end of previous calendar year	8 / 8	10 / 9	10 / 9	12 / 11	14/ 12	AEMC analysis, AEMO data
Independent rivalry	Market concentration (HHI)	As at end of previous financial year	2,390	2,212	2,053	1,953	1,873	AEMC analysis, AER data
	Market share of Big 3	As at end of previous financial year*	N/A	82%	72%	70%	68%	AEMC analysis, AER data; Victorian Energy Market Report
Customer activity	Small customers on market offers	As at end of previous financial year	N/A	72%	75%	Residential: 91% Small business: 82%	Residential: 91% Small business: 82%	ESC Comparative Performance Report, Customer Service; Victorian Energy Market Report

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Competitive retail prices	Range of bill outcomes- AusNet Services	February and March of the review year				\$559-\$1,015 (\$456 difference)	\$962-\$2,371 (\$1,409 difference)	AEMC analysis, Victoria Energy Compare website
	Range of bill outcomes- Australian Gas Networks area	February and March of the review year				\$600-\$1,041 (\$441 difference)	\$1,069-\$2,606 (\$1,537 difference)	AEMC analysis, Victoria Energy Compare website
	Range of bill outcomes- Multinet gas	February and March of the review year				\$606-\$962 (\$356 difference)	\$957-\$2,236 (\$1,279 difference)	AEMC analysis, Victoria Energy Compare website

Offers to (non-solar) consumers

The Commission examined a range of possible bill outcomes for a representative Victorian customer.⁴⁸⁷ Table F.26 shows the differences between the median standing offers and cheapest market offers for each network supply area.

Table F.26 Range of bill outcomes available for a representative consumer

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
CitiPower	\$1,472	\$898	\$574 (39%)
Jemena	\$1,588	\$975	\$613 (39%)
United Energy	\$1,533	\$935	\$599 (39%)
AusNet Services	\$1,739	\$1,087	\$652 (38%)
Powercor	\$1,617	\$1,004	\$612 (38%)

Figure F.14 shows the range of bills outcomes for a representative consumer in the CitiPower network supply area, as well as the number of market offers (in blue) and standing offers (in grey) that would yield each outcome. Similarly, Figure F.15 shows the range of bill outcomes for the Jemena network supply area, Figure F.16 for the United Energy network supply area, Figure F.17 for the AusNet Services network supply area and Figure F.18 for the Powercor network supply area.

⁴⁸⁷ With an annual consumption of 3,865 kWh and no controlled load.

Figure F.14 **Range of bills for representative electricity residential customer in Victoria (CitiPower Supply Area) – market and standing offers**

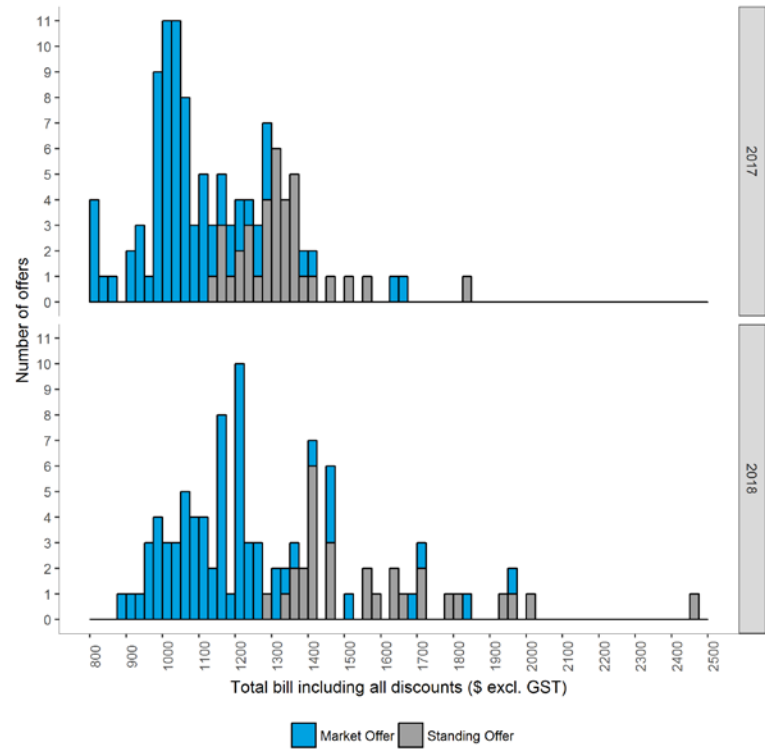


Figure F.15 **Range of bills for representative electricity residential customer in Victoria (Jemena supply area) - market and standing offers**

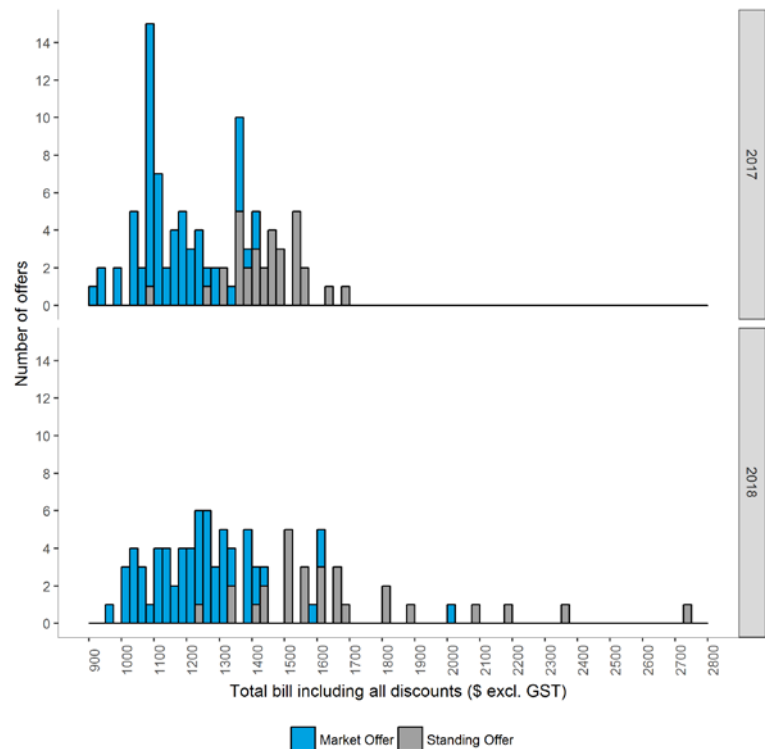


Figure F.16 **Range of bills for representative electricity residential customer in Victoria (United Energy supply area) – market and standing offers**

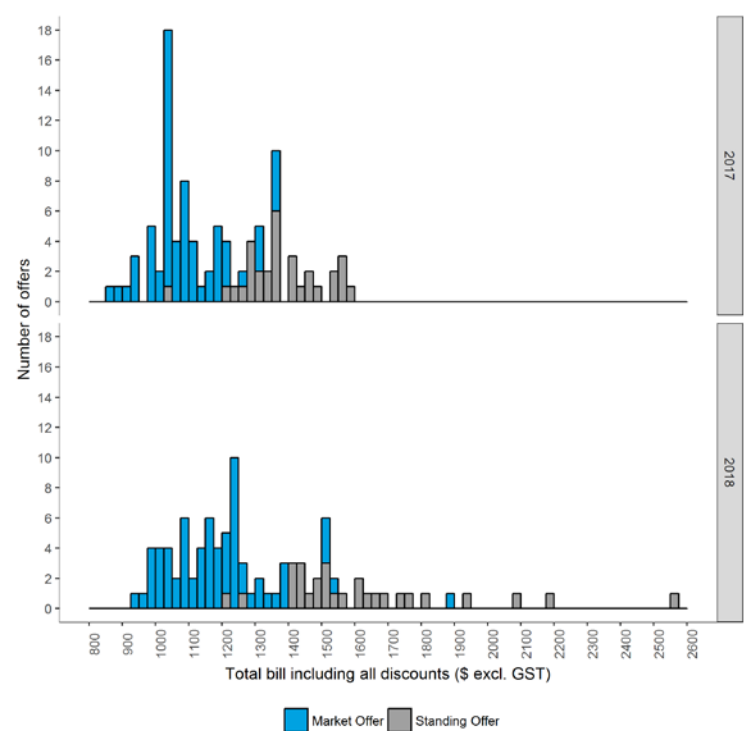


Figure F.17 **Range of bills for representative electricity residential customer in Victoria (AusNet supply area) – market and standing offers**

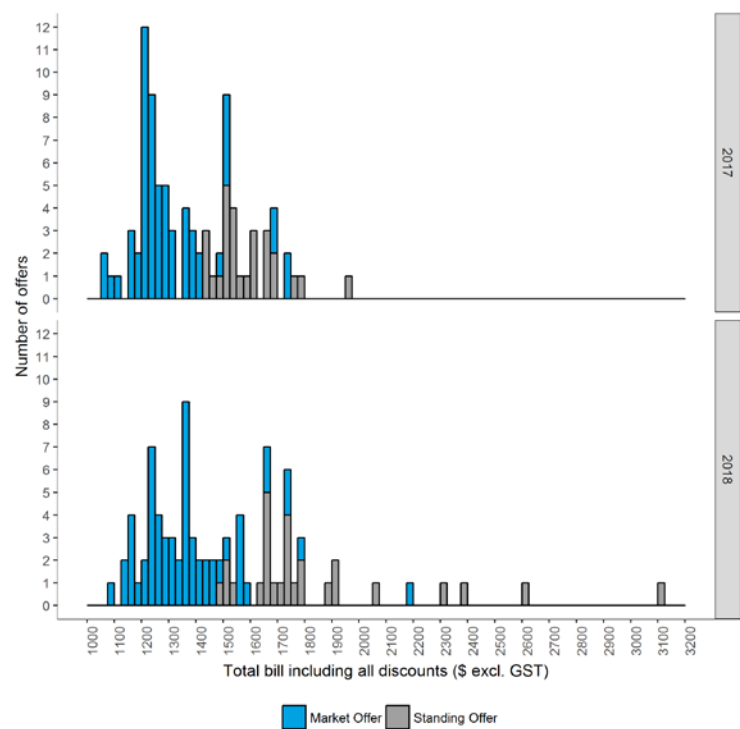
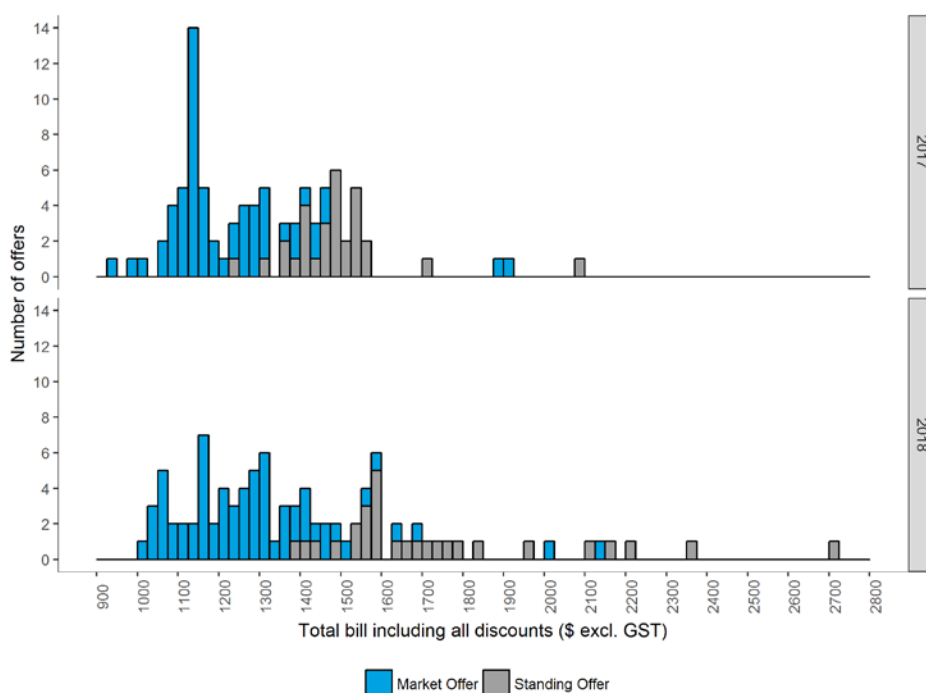


Figure F.18 Range of bills for representative electricity residential customer in Victoria (Powercor supply area) – market and standing offers



Offers to consumers with rooftop solar systems

The Commission analysed the range of bill outcomes available for a representative Victorian consumer a 3kW solar PV system on a flat tariff.⁴⁸⁸ This solar customer is assumed to have the same consumption profile as a non-solar customer.

Figure F.19 shows the total bill outcomes for customers in the CitiPower network supply area and the number of markets offers available to solar customers (in orange) and those available to non-solar customers (in blue). The chart also shows the number and size of the solar feed-in tariffs available. Figure F.20 shows the same analysis for the Jemena network, Figure F.21 for the United Energy network supply area, Figure F.22 for the AusNet Services network supply area and Figure F.23 for the Powercor network supply area. Notably, the degree of price dispersion in solar offers is significantly lower than in non-solar offers. The majority of solar customers in Victoria get the feed-in-tariff between 11 c/kWh and 12 c/kWh.

⁴⁸⁸ In this year's review the methodology of calculating bill outcomes available for a consumer with rooftop solar was improved by incorporating self-consumption levels and solar exports.

Figure F.19 Range of bills for representative electricity residential customer in Victoria (CitiPower supply area) – solar offers, feed-in-tariffs

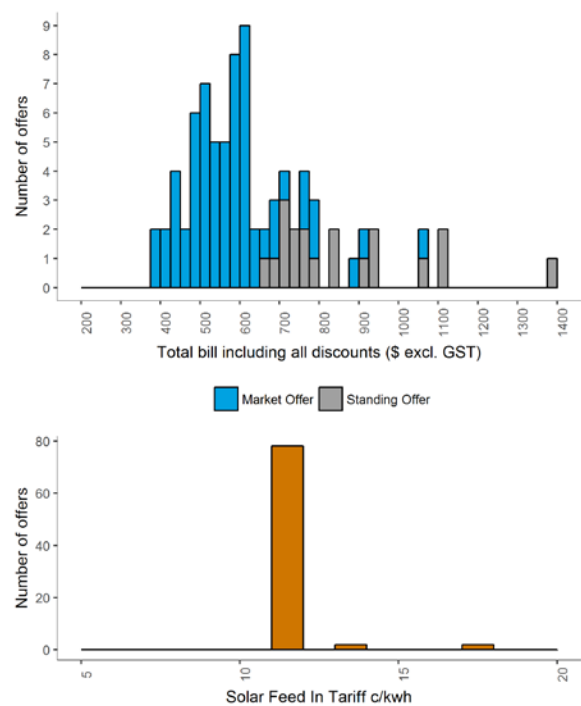


Figure F.20 Range of bills for representative electricity residential customer in Victoria (Jemena Energy supply area) –solar offers, feed-in-tariffs

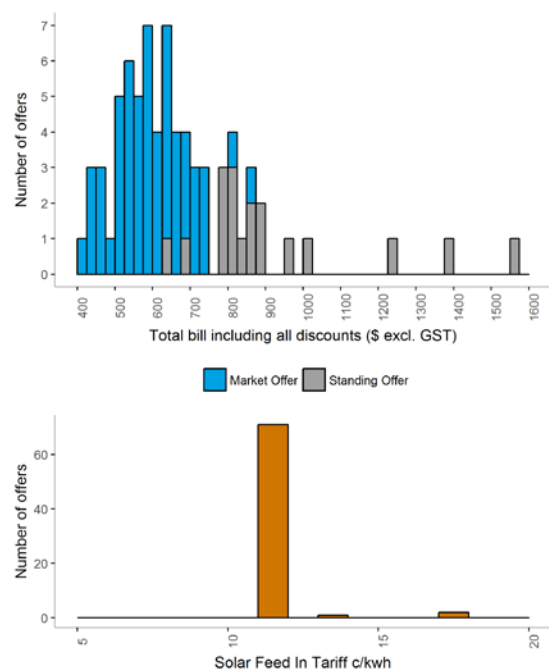


Figure F.21 **Range of bills for representative electricity residential customer in Victoria (United Energy supply area) –solar offers, feed-in-tariffs**

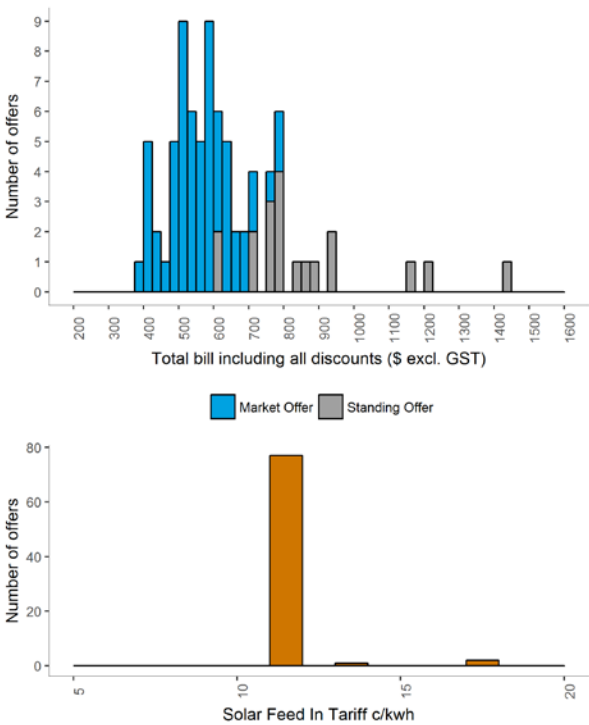


Figure F.22 **Range of bills for representative electricity residential customer in Victoria (AusNet Services supply area) – solar offers, feed-in-tariffs**

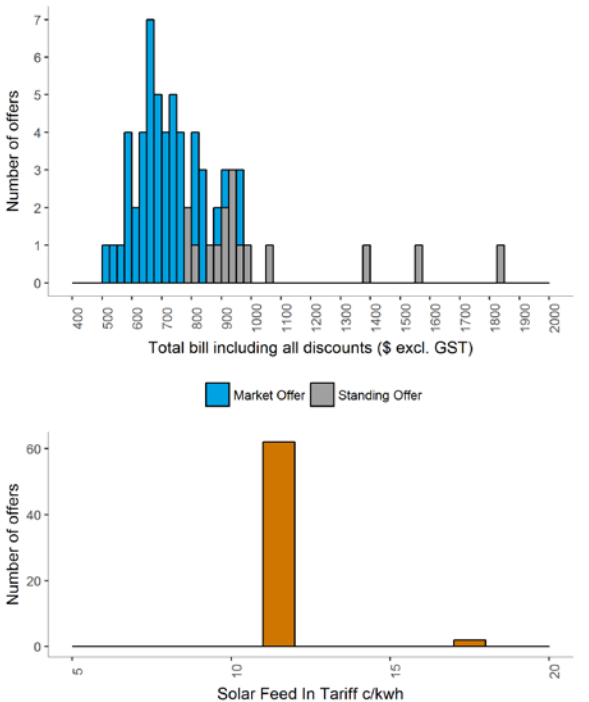
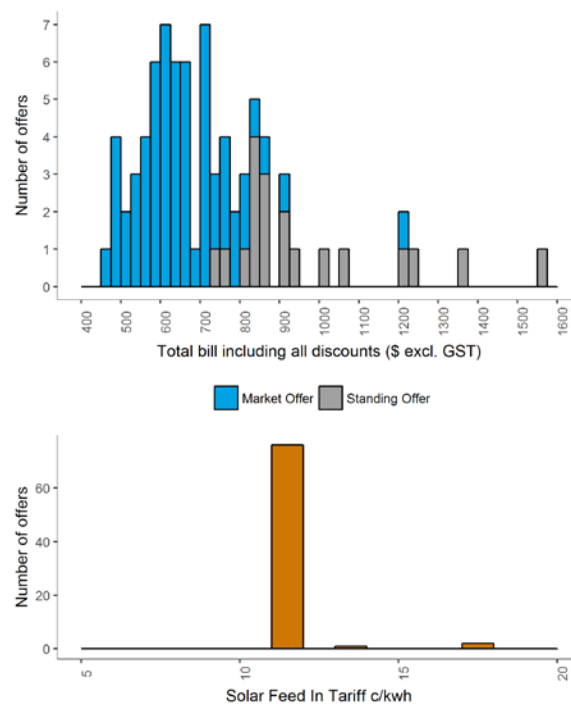


Figure F.23 Range of bills for representative electricity residential customer in Victoria (Powercor supply area) – solar offers, feed-in-tariffs



Offers to (non-solar) small business consumers

The Commission examined the range of bill outcomes for a representative Victorian small business consumer.⁴⁸⁹ Table F.27 shows the differences between the median standing offers and cheapest market offers for each network supply area.

Table F.27 Range of bill outcomes available for a small business consumer

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
CitiPower	\$5,937	\$3,275	\$2,662 (45%)
Jemena	\$6,246	\$3,878	\$2,368 (38%)
United Energy	\$6,073	\$3,413	\$2,659 (44%)
AusNet Services	\$7,838	\$4,517	\$3,321 (42%)
Powercor	\$6,345	\$3,431	\$2,914 (46%)

⁴⁸⁹ With an annual consumption of 17,500 kWh

Residential gas offers

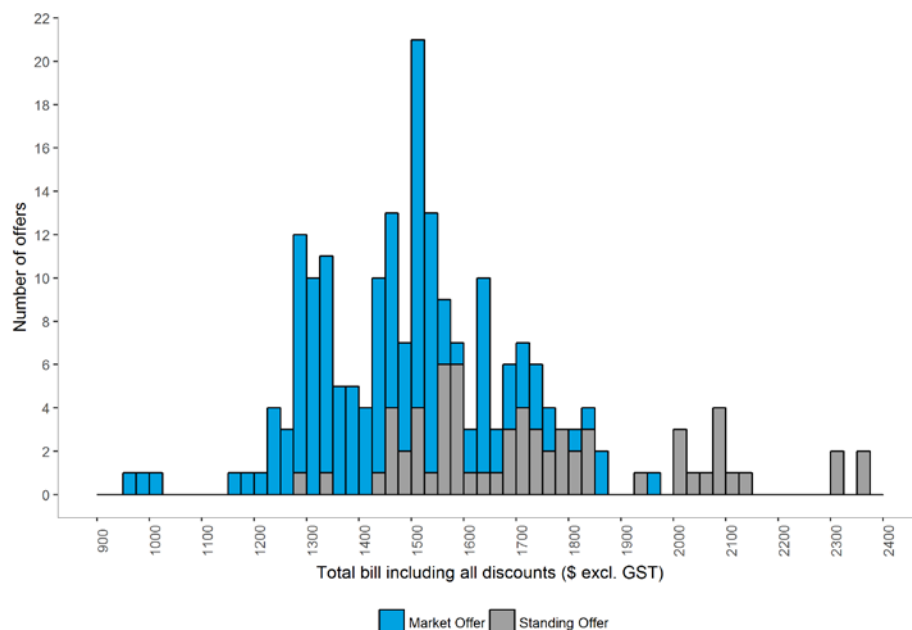
The AEMC examined the range of bill outcomes available in the gas network regions of Victoria. The results are summarised in Table F.28 below.⁴⁹⁰

Table F.28 Range of bill outcomes available for gas network regions of Victoria

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
AusNet Services	\$1,713	\$962	\$751 (44%)
Australian Gas Networks area	\$1,785	\$1,069	\$716 (40%)
Multinet gas	\$1,648	\$957	\$690 (42%)

Figure F.24, Figure F.25 and Figure F.26 provides the range of bill outcomes and the number of standing and market offers for a representative residential gas consumer in the AusNet Service, Australia Gas Networks and Multinet gas network supply areas.

Figure F.24 Range of bills for representative gas residential customer in Victoria (AusNet Services supply area) – market and standing offers



⁴⁹⁰ There are several gas networks in Victoria that have not been included in the table. Bills have been constructed using a consumption level of 62,528MJ per annum.

Figure F.25 Range of bills for representative gas residential customer in Victoria (Australian Gas Networks supply area) – market and standing offers

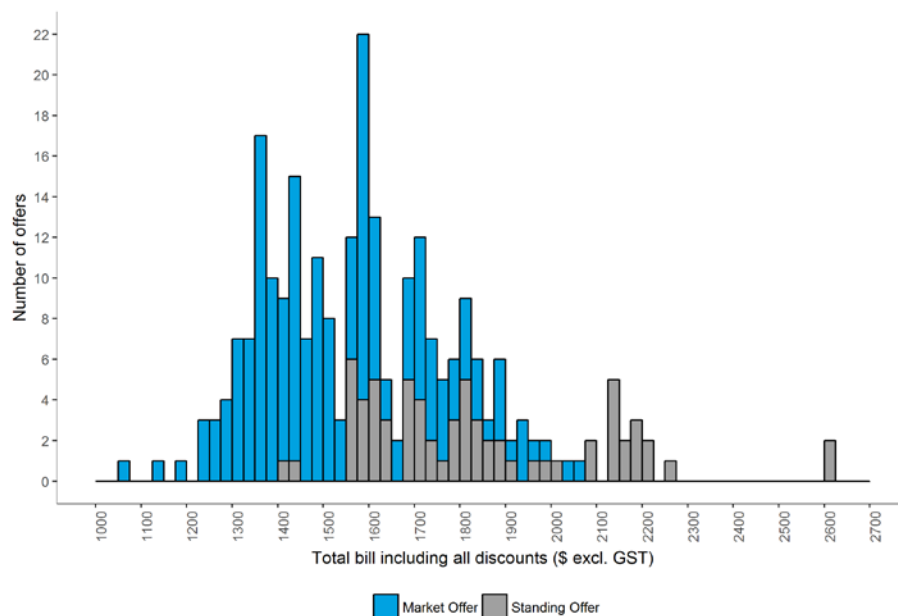
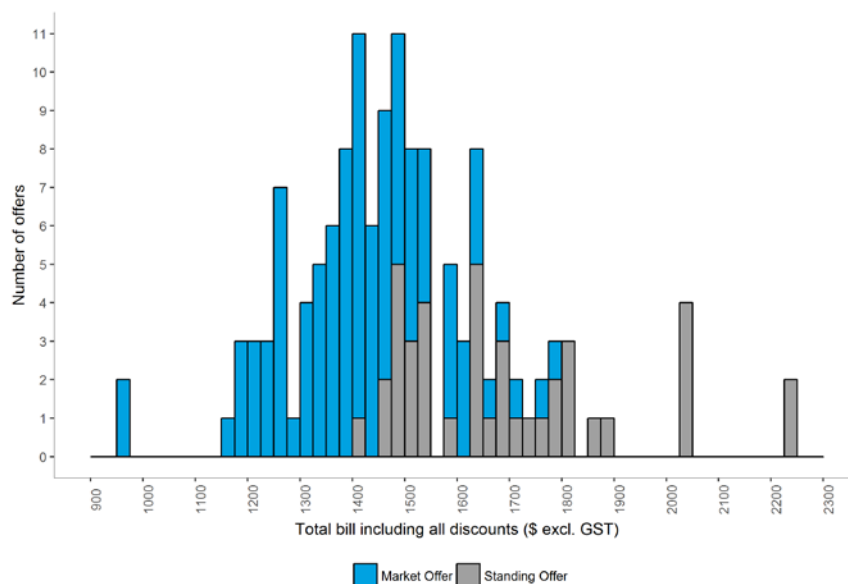


Figure F.26 Range of bills for representative gas residential customer in Victoria (Multinet Gas supply area) – market and standing offers



F.5 South Australia

In May 2018 in South Australia, there were 15 retail electricity businesses (19 retail electricity brands). These brands are supplying approximately 850,000 small electricity customers, as of December 2017.

There were also six retail gas businesses and brands in May 2018. As of December 2017, these brands supplied approximately 450,000 small gas customers. Since the 2017 Report, the South Australian retail electricity market has seen the exit of Next Business Energy and the entry of retail brand amaysim Energy after the mobile phone retailer entered the energy market by acquiring Click Energy as well as establishing their own brand. The gas market has seen the entry of Red Energy into the retail gas market.

Full retail contestability was introduced for electricity in 2003 and gas in 2004. In 2013 South Australia removed retail price regulation for both electricity and gas, and implemented the NECF subject to some variations.⁴⁹¹ The Essential Services Commission of South Australia monitors and reports annually on energy retail prices.

Table F.29 Summary of market indicators: electricity

Indicator		Comments
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none">• The liquidity of the South Australian wholesale market continues to be the biggest issue for retailers, with many citing the limited access to competitively priced risk management products as a barrier to entry or expansion.• Two retailers noted that the former and current South Australian government's plan for a Virtual Power Plant could potentially remove some of the barriers to entry for smaller retailers (given demand response provides an alternative or complementary risk management option).• No retailers cited barriers to exiting the electricity market.
	Independent rivalry	<ul style="list-style-type: none">• Market concentration declined slightly by 110 points on the HHI to 2731 in 2017.• South Australia remains the third most competitive market in the NEM based on the HHI, as it has been since 2011.
Market conduct	Residential consumer engagement and activity	<ul style="list-style-type: none">• Customer engagement across the energy sector remained stable in the past year with slightly more customers switching retailers (17.2 per cent in 2017 compared to 16.7 per cent in 2016). There were also slightly fewer consumers indicating an intention to switch retailers in the next 12 months (20 per cent in April 2018 compared to 23 per cent in April 2017). The main reason stated by consumers for switching was being approached by a competitor at 41 per cent.

⁴⁹¹ A full set of South Australian jurisdictional specific modifications, savings and transitional and opt-in provisions can be found in the *AEMC Guide to the NECF* webpage, www.aemc.gov.au/regulation/energy-rules/resources-stakeholders/guide-application-necf.

Indicator		Comments
		<ul style="list-style-type: none"> Residential consumer confidence decreased in the past year. In April 2018, compared to April 2017, confidence that: <ul style="list-style-type: none"> the energy market is working in their long-term interests was 24 per cent (down four per cent) they can make good decisions was 62 per cent (down seven per cent) they can access easily understood information was 49 per cent (down six per cent).
	Business consumer engagement and activity	<ul style="list-style-type: none"> Business engagement with the electricity sector has decreased in the past year with fewer businesses intending to switch, or having actively investigated different energy options in the past 12 months. The number of business consumers who have switched in the past 12 months has decreased by three per cent to 19 per cent in 2018. Business consumers have lower confidence that they can find the right information. In 2018, 59 per cent were confident, which was a drop of 11 per cent from 2017.
	Retailer pricing strategy	<ul style="list-style-type: none"> Conditional discounting from varying base rates is still the most common form of retailer pricing strategy. There are some alternative and innovative pricing offers available, but they are limited in number Some features of electricity offers in 2017 were: <ul style="list-style-type: none"> 44 per cent of offers had conditional discounts 31 per cent of offers had guaranteed discounts 26 per cent of offers had no discounts.⁴⁹²
	Retail energy price offer spread	<ul style="list-style-type: none"> By switching from the median standing offer to the cheapest market offer residential consumers can save \$832, while small business customers can save up to 44 per cent off their annual bill. The extent of price dispersion is slightly higher for non-solar customers than for solar customers.
Market outcomes/performance	Residential consumer outcomes	<ul style="list-style-type: none"> Residential consumer satisfaction has decreased in the past year. In April 2018, compared to April 2017, satisfaction with: <ul style="list-style-type: none"> the level of competition was 47 per cent (up one per cent) customer service from electricity retailers was 53 per cent (down two per cent) the value for money of electricity retailers was 38 per cent (down five per cent). There was a 32 per cent reduction in complaints to

⁴⁹² AEMC analysis of offers taken from *Energy Made Easy*. Note: offers can have both conditional and guaranteed discounts at the same time and therefore percentage can be higher than 100 per cent.

Indicator		Comments
		<p>retailers (electricity and gas) and a 15 per cent reduction to the Ombudsmen (electricity) from 2015/16 to 2016/17. EWOSA stated that industry participants are successfully resolving less complex customer complaints allowing EWOSA to deal with more complex issues. There have been reports that complaints have increase in the later portion of 2017 due to the price increases in July.</p> <ul style="list-style-type: none"> The number of electricity customers on hardship programs as between June 2016 and June 2017 decreased 16 per cent from 13,644 to 11,483. While this was the largest decrease across the NEM, the state remains the jurisdiction with the highest proportion of customers on hardship programs (1.4 per cent of customers are on electricity hardship programs). Electricity disconnection rates have remained relatively stable since 2011/12 (from 10,546 in 2015/16 to 10,902 in 2016/17).
	Business consumer outcomes	<ul style="list-style-type: none"> A number of business satisfaction metrics have decreased in the past year (from 2017 to 2018). Satisfaction with: <ul style="list-style-type: none"> their current electricity provider was 50 per cent (down 15 per cent) customer service from electricity retailers was at 40 per cent (down 21 per cent) the value for money of electricity was at 33 per cent (down 18 per cent) the level of competition was at 43 per cent (down 15 per cent). There has been a reduction in complaints to retailers by 19 per cent from 2015/16 to 2016/17. There was a seven per cent increase in business customer disconnection rates in 2016/17 compared to 2015/16 to 727 (up from 678).
	Retailer outcomes	<ul style="list-style-type: none"> The gross margin of South Australian small customer electricity bills of the Big 3 retailers increased by five per cent from 2015/16 to 15 per cent in 2016/17.

Table F.30 Summary of market indicators: gas

Indicator		Comments
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none"> Retailers identified no changes to jurisdictional barriers to entry, exit or expansion in the market.
	Independent rivalry	<ul style="list-style-type: none"> Market concentration, as measured by the HHI, has remained static for the state's gas retail market since 2015 at approximately 3,190.
Market	Residential consumer	<ul style="list-style-type: none"> Residential consumer confidence and engagement has

Indicator		Comments
conduct	engagement and activity	<p>decreased. Refer to Table F.29.</p> <ul style="list-style-type: none"> Customer engagement remained stable in the past year with slightly more customers switching retailers (11.5 per cent in 2017 compared to 11 per cent in 2016).
	Business consumer engagement and activity	<ul style="list-style-type: none"> For business consumer engagement and confidence refer to Table F.29
	Retailer pricing strategy	<ul style="list-style-type: none"> There has been little to no innovation regarding business offerings in the electricity or gas retail markets. Of the gas offers available in 2018 were: <ul style="list-style-type: none"> — 42 per cent of offers had conditional discounts — 42 per cent of offers had guaranteed discounts — 19 per cent of offers had no discounts.⁴⁹³
	Retail energy price offer spread	<ul style="list-style-type: none"> By switching from the median standing offer to the cheapest market offer residential consumers can save between \$108 and \$161, depending on their DNSP.
Market outcomes/performance	Residential consumer outcomes	<ul style="list-style-type: none"> Residential consumer satisfaction has in the past year. In April 2018, compared to April 2017, satisfaction with: <ul style="list-style-type: none"> — customer service from gas retailers was 59 per cent (down six per cent) — the value for money of gas was 53 per cent (down seven per cent). The number of gas customers on hardship programs as between June 2016 and June 2017 decreased from 5,630 to 4,176. The average debt of customers on entry into hardship programs increased from \$493 in 2015/16 to \$648 in 2016/17. Gas disconnection rates decreased slightly over the past year (from 1.1 per cent in 2016 to 0.8 per cent in 2017).
	Business consumer outcomes	<ul style="list-style-type: none"> A number of business satisfaction metrics have decreased in the past year. For more information about business consumer satisfaction refer to Table F.29. Gas disconnection rates have decreased over the past year (from 133 in 2015/16 to 91 in 2016/17).

⁴⁹³ AEMC analysis of offers taken from *Energy Made Easy*. Note: offers can have both conditional and guaranteed discounts at the same time and therefore percentage can be higher than 100 per cent.

Summary key market statistics

Table F.31 South Australia: Electricity

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of small customers ('000)	As at end of previous financial year	820	830	841	848	848	AER retail statistics
	Number of retail brands / businesses	As at end of previous calendar year	13 / 13	15 / 13	18 / 15	19 / 16	19 / 15	AEMC analysis, AEMO data
Independent rivalry	Market concentration (HHI)	As at end of previous calendar year	3,259	3,121	3,015	2,842	2,732	AEMC analysis, AER data
	Market share of Big 3	As at end of previous calendar year	82%	80%	79%	78%	74%	AEMC analysis, AEMO data
Customer activity	Small customers on market offers	As at end of previous calendar year	82%	83%	85%	86%	88%	AER retail statistics
Competitive retail prices*	Range of bill outcomes – SA Power Networks	Between January and February		\$1,491–\$1,881 (\$390 difference)	\$1,401–\$1,965 (\$564 difference)	\$1,429–\$3,026 (\$1,597 difference)	\$1,467–\$2,908 (\$1,441 difference)	AEMC analysis, Energy Made Easy website

* 2018 data is based on a representative consumer with an annual consumption of 5,00 kWh and no controlled load. 2017 data is based on a representative customer in South Australia with annual consumption of 5000kWh, as at 5 January, 2017. 2016 data is based on flat tariff offers as at 27 February 2016, without GreenPower, for a representative customer consumption of 5000kWh annually. 2015 based on a representative customer consumption of 5000kWh annually. Range of bill outcomes is based on the least to the most expensive (standing or market) offer available in the DNSP area.

Table F.32 South Australia: Gas

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of customers ('000)	As at end of previous financial year	409	408	416	422	427	AER retail statistics
	Number of retail brands / businesses	As at end of previous calendar year	5 / 5	5 / 5	5 / 5	5 / 5	6/6	AEMC analysis, AEMO data
Independent rivalry	Market concentration (HHI)	As at end of previous financial year	3,478	3,269	3,253	3,190	3,188	AEMC analysis, AER data
	Market share of Big 3	As at end of previous financial year	92%	90%	88%	88%	86%	AEMC analysis, AER data
Customer activity	Small customers on market offers	As at end of previous calendar year	82%	83%	85%	86%	87%	AER retail statistics
Competitive retail prices	Range of bill outcomes- AGN Metro/Barossa/ Peterborough	January to March of the review year				\$869–\$1019 (\$150 difference)	\$979–\$1,241 (\$262 difference)	AEMC analysis, Energy Made Easy website
	Range of bill outcomes- AGN Riverland/ Murray Bridge	January to March of the review year				\$902–\$992 (\$90 difference)	\$982–\$1,090 \$108 difference)	AEMC analysis, Energy Made Easy website

Offers to (non-solar) consumers

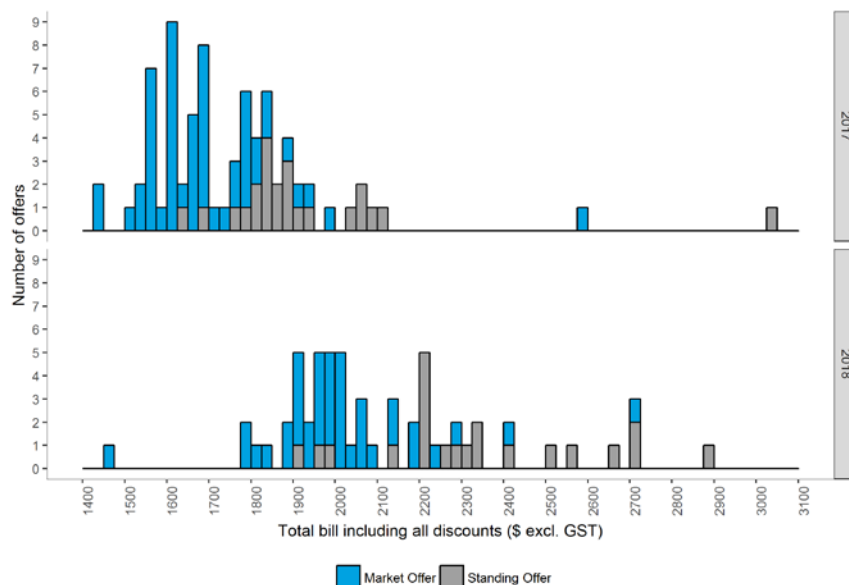
The Commission examined a range of possible bill outcomes for a representative South Australian customer.⁴⁹⁴ Table F.33 shows the differences between the median standing offers and cheapest market offers for the SAPN supply area.

Table F.33 Range of bill outcomes available for a representative consumer

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
SA Power Network	\$2,299	\$1,467	\$832 (36%)

Figure F.27 shows the range of bills outcomes for a representative consumer in the SA Power network supply area, as well as the number of market offers (in blue) and standing offers (in grey) that would yield each outcome.

Figure F.27 Range of bills for representative electricity residential customer in South Australia (SAPN supply area) – market and standing offers



Offers to consumers with rooftop solar systems

The Commission analysed the range of bill outcomes available for a representative South Australian consumer with a 3kW solar PV system on a flat tariff.⁴⁹⁵ This solar customer is assumed to have the same consumption profile as a non-solar customer.

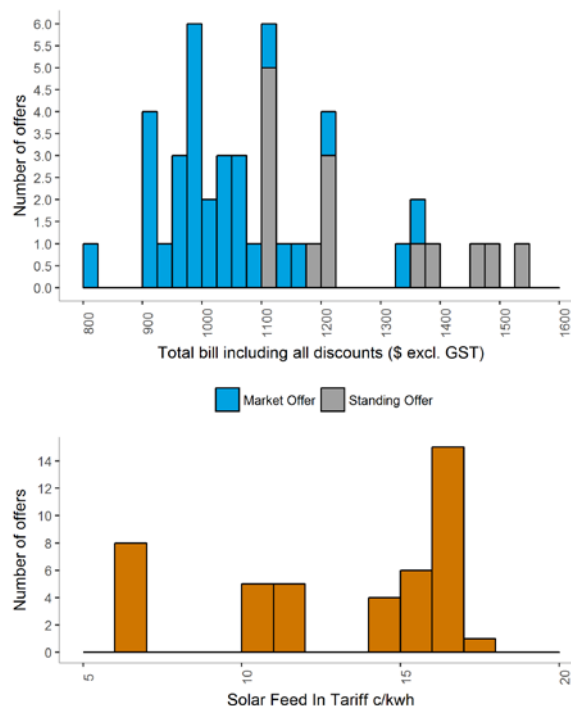
Figure F.28 shows the total bill outcomes for customers in South Australia and the number of markets offers available to solar customers. The chart also shows the number

⁴⁹⁴ With an annual consumption of 5,000 kWh and no controlled load.

⁴⁹⁵ In this year's review the methodology of calculating bill outcomes available for a consumer with rooftop solar was improved by incorporating self-consumption levels and solar exports.

and size of the solar feed-in tariffs available. Notably, the extent of price dispersion is slightly higher for non-solar customers than for solar customers. Comparing to other states, South Australia has the highest dispersion of solar feed-in-tariffs – between six c/kWh and 18 c/kWh.

Figure F.28 **Range of bills for representative electricity residential customer in the South Australia (Power Networks supply area) – solar offers, feed-in-tariffs**



Offers to (non-solar) small business consumers

In South Australia, the range of bill outcomes possible for a representative small business consumer, which has an annual consumption of 17,500 kWh, has been examined by the AEMC. Table F.34 shows the differences between the median standing offers and cheapest market offers for the SA Power Network supply area.

Table F.34 **Range of bill outcomes available for a small business consumer**

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
SA Power Network	\$7,857	\$4,400	\$3,457 (44%)

Residential gas offers

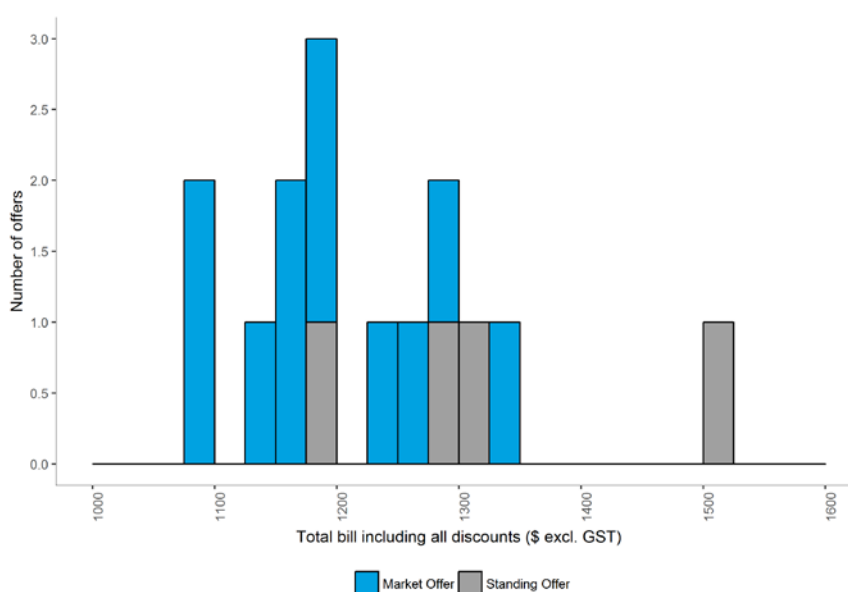
The AEMC examined the range of bill outcomes available in two of the gas network regions of South Australia. The results are summarised in Table F.35 below.⁴⁹⁶

Table F.35 Range of bill outcomes available for a small business consumer

Network	Median standing offer	Cheapest market offer	Difference between the median standing and cheapest market offers
AGN Metro/Barossa/Peterborough	\$1,139	\$979	\$161 (14%)
AGN Riverland/Murray Bridge	\$1,090	\$982	\$108 (10%)

Figure F.29 provides the range of bill outcomes for a representative residential gas consumer in the AGN Metro/ Barossa/Petersborough supply area, and indicates the number of market offers (in blue) and standing offers (in grey).

Figure F.29 Range of bills for representative electricity residential customer in South Australia (AGN Metro/Barossa/Petersborough supply area) – market and standing offers



⁴⁹⁶ There are several gas networks in South Australia that have not been included in the table. Bills have been constructed using a consumption level of 26,602MJ per annum.

F.6 Tasmania

Tasmania's electricity market is the second smallest in the NEM with 275,739 small customers as of December 2017, and its gas market is the smallest. The roll-out of the state's gas network targeted large users and this, together with geographic barriers, has resulted in low gas penetration.

As of May 2018, there were two electricity retailers. Aurora Energy supplies electricity to residential and business consumers, and ERM Power - to business consumers only. There were also two gas retailers, Aurora Energy and TasGas, supplying 13,858 customers as of June 2017.

For electricity, Tasmania introduced full retail contestability for small business customers with consumption between 50 and 150 MWh per annum, in July 2011. For residential and the remaining small business customers, it was introduced in July 2014. Since then, one retailer entered the small business segment in 2014, but no new retailer has entered the residential segment. Standing offer prices continue to be regulated by the Tasmania Economic Regulator.⁴⁹⁷

For gas, there has been full retail contestability without price regulation since the market's inception in 2007.

Tasmania adopted the NECF in July 2012 for the retail electricity market but not for the retail gas market.

On 30 April 2017, the Tasmanian Government announced it will introduce changes to cap wholesale prices in Tasmania. This intervention capped wholesale electricity prices at \$83.79/MWh for 12 months from 1 July 2017 and protected households and small businesses from a massive price spike.⁴⁹⁸ Key market indicators are set out in Table F.36 for electricity and F.37 for gas.

Table F.36 Summary of market indicators: electricity

Indicator		Comments
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none">• Retail price regulation and small market size remain significant barriers to entry.
	Independent rivalry	<ul style="list-style-type: none">• Market concentration declined slightly by 72.3 points on the HHI to 9,883.• Tasmania remains the least competitive market in the NEM based on HHI, as it has been since retail contestability was introduced in 2011.

⁴⁹⁷ Office of the Tasmanian Economic Regulator, Tasmanian Government, Hobart, Office of the Tasmania Economic Regulator - Pricing, viewed 23 May 2017, www.energyregulator.tas.gov.au/domino/otter.nsf/elect-v/006.

⁴⁹⁸ *Electricity Supply Industry Act 1995*, Wholesale electricity price order. For more information see: www.economicregulator.tas.gov.au/Documents/WEP-Order-for-2017-18-Standing-Offer-prices.PDF

Indicator		Comments
Market conduct	Residential consumer engagement and activity	<ul style="list-style-type: none"> Residential consumer confidence decreased in 2018. In April 2018, compared to April 2017, confidence that: <ul style="list-style-type: none"> the energy market is working in their long-term interests was at 19 per cent (down eight per cent) they can make good decisions was 43 per cent (down 19 per cent) they can access easily understood information was at 42 per cent (down 10 per cent).
	Business consumer engagement and activity	<ul style="list-style-type: none"> Business consumers have lower confidence that they can find the right information. In 2018, 20 per cent were confident, which was a drop of 36 per cent from 2017. 68 per cent of respondents did not know how confident they were in finding the right information for choosing an energy plan.
	Retailer pricing strategy	<ul style="list-style-type: none"> The Tasmanian market is price regulated. As such, monopoly retailer Aurora, offers only differs due to the tariff type, such as time-of-use or inclining block. Some features of electricity offers in 2018 were: <ul style="list-style-type: none"> no offers with conditional discounts 20 per cent of offers had guaranteed discounts 80 per cent of offers had no discounts.
Market outcomes/ performance	Residential consumer outcomes	<ul style="list-style-type: none"> As of April 2018, residential consumer satisfaction with choice of energy companies and plans decreased to 9 per cent (down by four per cent from April 2017). However, satisfaction has increased in other areas. In April 2018, compared with April 2017, satisfaction with: <ul style="list-style-type: none"> customer service from electricity retailers was 59 per cent (up nine per cent) the value for money of electricity retailers was 35 per cent (up one per cent). There was a significant increase in complaints to the ombudsman by 30.5 per cent and to the retailers by 26 per cent for both electricity and gas in 2016/17. The number of electricity customers on hardship programs increased by seven per cent in the past year from 2,065 to 2,208 in 2016/17 (a seven per cent increase). Electricity disconnection rates decreased slightly in the past year (1016 in 2016/17 from 1172 in 2015/16).
	Business consumer outcomes	<ul style="list-style-type: none"> Business satisfaction levels have generally increased in 2018. In 2018, compared to 2017, satisfaction with: <ul style="list-style-type: none"> their current electricity provider was at 82 per cent (up 14 per cent) customer service from electricity retailers was at 83 per cent (up five per cent)

Indicator		Comments
		<ul style="list-style-type: none"> — the value for money of electricity was at 87 per cent (up seven per cent) — the level of competition was at eight per cent (down 12 per cent). • There has been an increase in complaints to retailers by 32 per cent from 2015/16 to 1,119 in 2016/17. • Customer disconnection rates have remained static over the last year. Disconnections have changed from 84 in 2015/16 to 83 in 2016/17.

Table F.37 Summary of market indicators: gas

Indicator		Comments
Market structure	Barriers to entry, exit or expansion	<ul style="list-style-type: none"> • The small market size remains a barrier to entry and expansion.
	Independent rivalry	<ul style="list-style-type: none"> • The Tasmanian gas market remains highly concentrated. • HHI has remained static in Tasmania for a number of years. Tasmanian HHI increased slightly to 5,752 in 2017 from 5,734 in 2016.
Market conduct	Residential consumer engagement and activity	<ul style="list-style-type: none"> • Residential consumer confidence has decreased in 2018. For more information refer to Table F.36.
	Business consumer engagement and activity	<ul style="list-style-type: none"> • For more business confidence information refer to Table F.36.
Market outcomes/performance	Residential consumer outcomes	<ul style="list-style-type: none"> • Residential consumer satisfaction varied over the past year. In April 2018, compared with April 2017, satisfaction with: <ul style="list-style-type: none"> — customer service from gas retailers was 66 per cent (down one per cent) — the value for money of gas was 62 per cent (up nine per cent). • Complaints and hardship data for electricity and gas are the same as discussed in the table above.
	Business consumer outcomes	<ul style="list-style-type: none"> • Satisfaction with choice of energy companies and plans was eight per cent in 2018 (down by 12 per cent from April 2017). • Complaints to retailers for electricity and gas is the same as in the table above.

Summary key market statistics

Table F.38 Tasmania: Electricity

Market characteristics	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of small customers ('000)	As at end of previous financial year	264	266	270	272	274	AER retail statistics
	Number of retail brands / businesses	as at end of previous calendar year	2 / 2	2 / 2	2 / 2	2 / 2	2/2	AEMC analysis, AEMO data
Customer activity	Small customers on market offers	As at end of previous calendar year	13%	12%	12%	11%	9%	AER retail statistics
Independent rivalry	Market concentration (HHI)	As at end of previous calendar year	N/A	9,991	9,972	9,955	9,883	AEMC analysis, AEMO data
	Market share of Aurora Energy*	As at end of previous calendar year	100%	100%	99.96%	99.95%	99.93%	AEMC analysis, AEMO and AER data

* The only other electricity retailer in Tasmania is ERM Business Energy, which serves small business customers.

Table F.39 Tasmania: Gas

Category	Measure	Period	2014 review	2015 review	2016 review	2017 review	2018 review	Source
Market characteristics	Number of small customers ('000s)	Previous financial year	10.8	11	11.8	13.2	13.9	AEMC analysis, AEMO data, OTTER
	Number of retail brands / businesses	As at end of previous calendar year	2 / 2	2 / 2	2 / 2	2 / 2	2/2	AEMC analysis, AEMO data
Independent rivalry	Market concentration (HHI)	As at end of previous calendar year	5,200	5,392	5,537	5,734	5,752	AEMC analysis, AER data
	Market share of Aurora Energy*	As at end of previous financial year	36%	35%	33%	30%	30%	AEMC analysis, AER data

* The only other gas retailer in Tasmania is Tas Gas.

** Data for the 2017 review is from June 2016.

Offers to (non-solar) consumers

The Commission examined a range of possible bill outcomes for a representative Tasmanian customer.⁴⁹⁹

Table F.39 shows a reduction in the bill of the representative consumer in the TasNetworks supply area.

Table F.39 **Bill outcomes for representative electricity residential customer in Tasmania**

Network	Year	Standing offer bill
TasNetworks	2017	\$1,831
TasNetworks	2018	\$1,868

⁴⁹⁹ With an annual consumption of 7,908 kWh with 3,559 kWh of that on tariff 31 (light and power) and 4,349 kWh on tariff 41 (heating and hot water).