



**Economic views on assessing  
competitiveness and efficiency of the  
Victorian retail energy market**

Essential Services Commission (Victoria)

November 2019

## Background

The Essential Services Commission (ESC) is undertaking an inquiry to develop a framework to assess the competitiveness and efficiency of the Victorian retail energy market.<sup>1</sup> As part of its consideration of how to assess the competitiveness and efficiency of the Victorian energy retail market, myself (Kris Funston) and two other economists have been asked to answer four questions:

1. What would you expect to observe if the Victorian energy market was operating competitively in terms of outcomes for household and business customers?
2. What is your view on the Victorian market's performance and how does this compare to other markets?
3. What sort of innovation would we hope to encourage in a competitive market?
4. What measures would you use to undertake your assessment?

## Assessing competition and the efficiency of markets

To assess competitiveness of markets, a structure-conduct-performance (SCP) framework is often adopted. Developed by Joe Bain in the late 1950s, the SCP framework has been adopted by regulators to assess the effectiveness of competition in energy markets, including the Australian Competition and Consumer Commission (ACCC),<sup>2</sup> the Australian Energy Regulator (AER),<sup>3</sup> and the Australian Energy Market Commission (AEMC).<sup>4</sup>

The SCP framework suggests the structure of a market determines the conduct of the participants, and this conduct ultimately leads to performance outcomes, including how efficient the market is. It involves generally examining each of the following:

- **Structure** – This assesses what the overall market looks like. The analysis focuses on the number of firms and level of market concentration; the structure of firms - i.e. the degree of vertical and horizontal integration and whether they are government or privately owned; the ease of entry, expansion and exit to the sector; the number and the types of consumers in the market and the demand for services; and the type of service being supplied along with the technologies used to supply the service, which can impact on the cost structure of supply. In the retail electricity market stand-alone retailers have highlighted that a challenge of entering or expanding in retail markets is a lack of liquidity in the wholesale contract market.<sup>5</sup>
- **Conduct** – This assesses how both firms and consumers behave in the market. For firms, this involves pricing and product strategies, research and development work, and advertising and marketing. In the retail energy market in Victoria (and other states), a pricing strategy that has been predominantly used is price discounting, in particular what are known as conditional discounts, such as pay-on-time discounts.<sup>6</sup> For consumers, conduct relates to how consumers engage with the market, which includes such things as their willingness to consider and then undertake switching, how many customers are on market offers versus standing offers, the levels of confidence in the market, and the willingness to adopt new technologies offered in the market.
- **Performance** – This assesses the overall outcomes that the market is delivering for consumers and retailers. For consumers in the retail energy market it involves looking at such things as levels of satisfaction with the quality of service and value for money,<sup>7</sup> but also the

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<sup>1</sup> ESC, *Assessing the energy retail market's competitiveness and efficiency 2019*

<<https://www.esc.vic.gov.au/electricity-and-gas/electricity-and-gas-inquiries-studies-and-reviews/electricity-and-gas-retail/electricity-and-gas-retail-markets-review-implementation-2018-competitiveness>>.

<sup>2</sup> ACCC, 'Monitoring of supply in the National Electricity Market: March 2019 Report' (15 March 2019).

<sup>3</sup> AER, 'Wholesale electricity market performance monitoring: Draft 2020 Focus' (October 2019).

<sup>4</sup> AEMC, '2017 Retail Energy Competition Review' (25 July 2017); AEMC, '2018 Retail Energy Competition Review' (15 June 2018); and AEMC, '2019 Retail Energy Competition Review' (28 June 2019).

<sup>5</sup> AEMC, '2018 Retail Energy Competition Review' (15 June 2018), p 21, 38.

<sup>6</sup> ACCC, 'Inquiry into the National Electricity Market: August 2019 Report' (20 August 2019), p 61.

<sup>7</sup> This type of information can be sourced from Energy Consumers Australia, which conducts a bi-annual survey. For the most recent report, see: Energy Consumers Australia, *Energy Consumer Sentiment Survey* (June 2019).



levels of complaints and disconnections. For energy retailers, it involves assessing margins or an appropriate measure of profit for the sector.

While the SCP framework is used by regulators and is drawn upon in answering the questions posed here, it is important to recognise that it has its limitations and the causal relationships between structure, conduct and performance presented above are over-simplistic. For example, performance can also affect structure – new firms will enter profitable markets – and performance can also affect conduct – low consumer satisfaction in the electricity market appears to have contributed to a much larger uptake of solar by consumers and a rapid increase in ‘prosumers’.

Further, when assessing competition, no single measure should be used to draw conclusions about the state of competition. A complete assessment involves assessing the measures in combination, along with their trends over time. For example, market structures with high levels of concentration can still be effectively competitive if firms choose to compete vigorously on price.

### Question 1

**What would you expect to observe if the Victorian energy market was operating competitively in terms of outcomes for household and business customers?**

If the Victorian energy market were operating competitively, it would be expected that there would be a high degree of rivalry among the energy retailers. This would be reflected in market conduct where retailers engaged in a level of pricing and product differentiation.

Despite the homogeneity of retail energy products, price differentiation would occur as energy retailers design products for different consumers through effective customer segmentation. This would involve tailoring tariff structures and product offerings to meet the preferences of households and business customers, as retailers look to outcompete each other in terms of the services they deliver.<sup>8</sup> Tariffs differentiated by customer types and designed to meet consumer preferences and different consumption patterns due to the ownership of solar systems and batteries, should result in a high degree of price dispersion in the market. Further, retailers, in looking to differentiate their product offerings, would aim to innovate and provide new products and services to customers. This innovation is likely to be enabled through a combination of smart meters in Victoria, the increased digitisation of the sector, and improvements in consumer access to data (all discussed further in **Question 3**).

The conduct of households and business customers in such a market would be reflected by consumers having a high degree of confidence in their ability to make choices. Retail offerings would be clear and comparable so that consumers could, with minimal effort and time, choose the tariff structure and product offering that best met their preferences. The market should see this in the form of improving levels of consumer satisfaction with the level of competition, value for money and lower levels of complaints (discussed further in the comparison to other states in **Question 2**). In turn, those retailers earning the highest margins in the sector, would only be doing so through effectively outcompeting other retailers in what they offered customers. Over time it is anticipated that if successful retailers did not further improve retail energy service offerings, other retailers would be able to compete these margins away.

We would also expect that retailer energy firms in an effectively competitive market would also take a long-term view of their activities in the market. Robust competition should result in retailers attempting to build a good reputation over time by continuing to deliver positive customer experiences. This in turn will provide consumers with some level of protection. Nevertheless, even in an effectively competitive market, some level of minimal consumer protection regulations will be required.<sup>9</sup>

Across all markets currently, protections are provided to consumers against untoward retailer behaviour through the Australia Consumer Law under the *Competition and Consumer Act 2010*

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<sup>8</sup> ACCC, ‘Restoring electricity affordability and Australia’s competitive advantage: Retail Electricity Pricing Inquiry – Final Report’ (June 2018).

<sup>9</sup> C. Decker, ‘Regulatory implications of new products and services in Australian energy markets’ (17 July 2015) <<https://www.energy.gov.au/government-priorities/energy-markets/national-energy-customer-framework>>



(Commonwealth). However, the essential service nature of energy means it has been identified as requiring a higher level of consumer protection regulation. In Victoria this is done through the Retail Energy Code, while other states and territories have adopted the National Energy Consumer Framework (NECF). These provide similar protections, including covering matters such as a guaranteed connection, and minimum terms and conditions for standard retail contracts.

Finally, it is important to note that even when a retail energy market is effectively competitive, it does not provide any guarantee that the service will be affordable. Customers may experience issues with affordability of energy due to personal circumstance even in a competitive market that is delivering efficient pricing outcomes.<sup>10</sup> Retail energy prices are to a large extent influenced by wholesale and network pricing outcomes. If these increase, there is the potential for retailer energy price increases irrespective of how vigorous competition is in the retail market. Further, to the extent that broader economic conditions result in flat wages, it creates an environment where there is greater potential for increased numbers of vulnerable customers and higher numbers of customers on hardship payment programs.

### Question 2

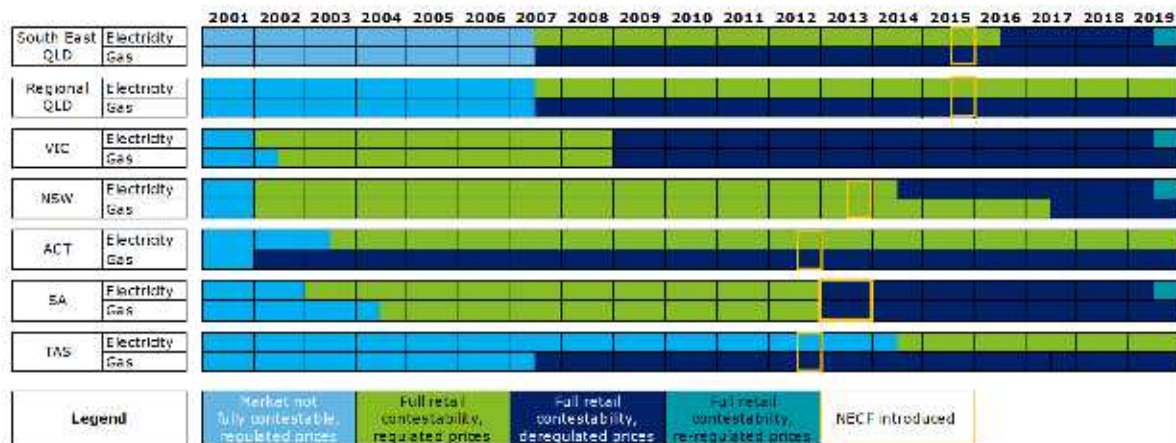
**What is your view on the Victorian market's performance and how does this compare to other markets?**

#### Victorian retail energy market compared to other states and territories

Energy retail markets in Australia have been gradually subject to deregulation. Figure 1 shows the timeframe for deregulation of the energy market across regions, and that Victoria's retail gas and electricity markets have been deregulated since 2009 - the longest timeframe across all regions.

As highlighted in Figure 1, all retail electricity markets have had some form of price regulation introduced since 1 July 2019. In Victoria, there was the introduction of the Victorian Default Offer (VDO), and in the other National Electricity Market (NEM) jurisdictions, the Default Market Offer (DMO) was put in place.

Figure 1: Deregulation of the regions in the National Electricity Market (NEM)



Source: AEMC.<sup>11</sup>

The longer period of retail market deregulation appears on face value to have resulted in the Victorian market performing better on many measures of structure, conduct and performance relative to energy markets in other regions.

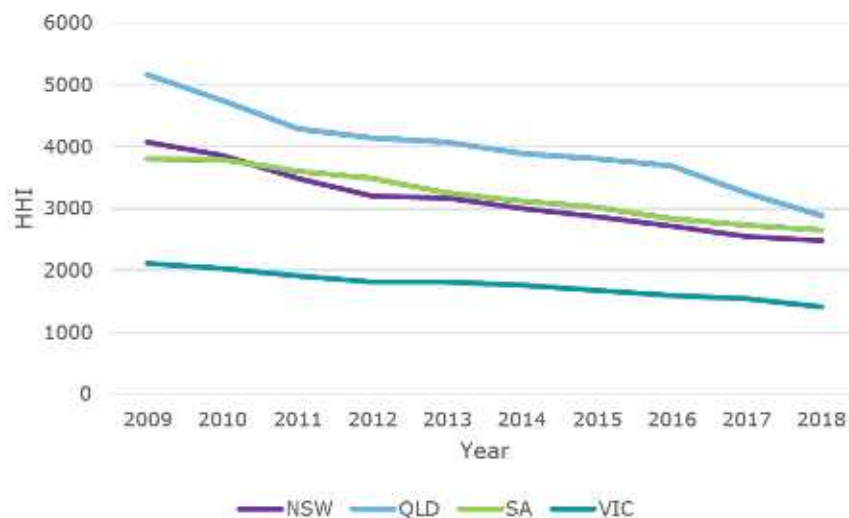
<sup>10</sup> AEMC, '2019 Retail Energy Competition Review' (28 June 2019).

<sup>11</sup> AEMC, '2019 Retail Energy Competition Review' (28 June 2019), p 6.

In terms of **structure**, in March 2019 the Victorian retail market had 22 electricity retailers (and 27 retail brands), and 15 gas retailers (and 17 retail brands).<sup>12</sup> The number of gas retailers is the highest among the National Energy Market (NEM)-based jurisdictions, while for electricity, the number of retailers is second to NSW. Further, in Victoria the market share of customers with the so called 'Big 3' retailers – EnergyAustralia, Origin and AGL - is the lowest across all regions for electricity (55%) and gas (62%).<sup>13</sup> Tier 2 retailers hold a relatively greater share of the market in Victoria compared with other jurisdictions.<sup>14</sup> The ACCC considers vertically-integrated Tier 2 retailers provide the greatest level of independent rivalry to the Big 3, as they are better able to capitalise on economies of scale than small retailers.<sup>15</sup>

The Victorian retail electricity and gas markets have consistently been the least concentrated retail markets across regions, as measured by the Herfindahl-Hirschman Index (HHI).<sup>16</sup> Figure 2 shows the HHI for the retail electricity market since deregulation.

Figure 2: Victorian electricity retail market HHI, December 2009-18



Source: AEMC.<sup>17</sup>

The Victorian retail energy market HHI for electricity was 1,293 in December 2018 and for gas was 1,693 in June 2018.<sup>18</sup> The ACCC in assessing mergers notes that it is less likely to identify competition concerns if the post-merger HHI is less than 2,000, with 2,000 sometimes being interpreted as a threshold for workably competitive market outcomes.<sup>19</sup>

The **conduct** of consumers in the Victorian retail market shows that in 2017-18 small consumers (households and businesses) on the higher standing offers in electricity was 6% and in gas was 7%.<sup>20</sup> The proportion of the customer base on standing offers in both markets has

<sup>12</sup> AEMC, *Retail energy competition review 2019: Victoria* <<https://2019.aemc.gov.au/competition-review/jurisdiction/victoria#looking-forward>>.

<sup>13</sup> AEMC, *Retail energy competition review 2019: Victoria* <<https://2019.aemc.gov.au/competition-review/jurisdiction/victoria#looking-forward>>.

<sup>14</sup> ACCC, 'Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry – Final Report' (June 2018), p 135.

<sup>15</sup> ACCC, 'Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry – Final Report' (June 2018), p 147.

<sup>16</sup> The Herfindahl-Hirschman Index (HHI) measures market concentration by summing the squares of the market share (by customer numbers) of all firms competing in a market. A lower score reflects a less concentrated and more competitive market.

<sup>17</sup> AEMC, '2019 Retail Energy Competition Review' (28 June 2019), p 34.

<sup>18</sup> AEMC, *Retail energy competition review 2019: Victoria* <<https://2019.aemc.gov.au/competition-review/jurisdiction/victoria#looking-forward>>.

<sup>19</sup> ACCC, 'Merger Guidelines' (2008, updated in 2017), p 35.

<sup>20</sup> AEMC, '2019 Retail Energy Competition Review' (28 June 2019), Table 4.1, p 55.

consistently been the lowest across all NEM-based jurisdictions. Victorian consumers also have the highest switching rates for both electricity (28.95%, 2018) and gas (24%, 2018).<sup>21</sup>

In Victoria, there is a high penetration of gas networks to households. This combined with the preference for consumers to have a single retailer to supply electricity and gas, and the potential for economies of scope in supply, has resulted in bundled gas and electricity, or dual offers, in Victoria. The AEMC has noted that in Victoria a few retailers consider being able to supply retail gas (usually as a dual fuel) is essential to be competitive in supplying retail electricity.<sup>22</sup>

Prior to the introduction of the VDO on 1 July 2019, Victoria appeared to have higher levels of price dispersion than retail markets in other jurisdictions.<sup>23</sup> As noted in **Question 1**, price dispersion may be an indicator of effective competition.<sup>24</sup> However, in Victoria, and in other markets, the higher levels of dispersion is due to pricing strategies involving higher percentage discounts off an increasing rate base, rather than tailoring tariff structures to consumer preferences. Results based on the market offers available also do not provide clear indications of the type of offers that customers are actually on.

Victorian retailers have historically had the highest percentage price discounts,<sup>25</sup> and highest discount levels across all the regions.<sup>26</sup> In the Victorian energy market in 2017-18:<sup>27</sup>

- 80% of energy market offers for residential customers had discounts – 76% of electricity offers and 83% of gas offers
- 69% of small business electricity market offers<sup>28</sup> applied discounts – 64% of electricity offers and 75% of gas offers
- more than two-thirds of electricity offers had conditional discounts, such as pay-on-time conditions, dual fuel and direct debit payments.

Further, data from Big 3 retailers across regions shows that the Victorian retail electricity offers in 2016-17 and 2017-18, had the:<sup>29</sup>

- greatest number of customers receiving discounts of greater than 25% – 53% in 2016-17 and 60% in 2017-18 (the next highest being South East Queensland with 18% in 2017-18)
- least number of Big 3 retailer customers receiving no discounts – 22% in 2016-17 and 7% in 2017-18 (the next lowest being South Australia with 18% in 2017-18).

The practice and growth in marketing discounts and the use of conditional discounts has been criticised by both the ACCC and AEMC as increasing confusion and complexity for customers.<sup>30</sup> The AEMC notes that price dispersion arising from discounting rather than effective segmentation, suggests retailers are differentiating price offers based on customer inertia rather than customer preferences.<sup>31</sup> Concerns have also been raised that higher discounts over time have not equated to lower customer bills and the practice of conditional discounts – for example, pay-on-time discounts

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<sup>21</sup> AEMC, *Retail energy competition review 2019: Victoria* <<https://2019.aemc.gov.au/competition-review/jurisdiction/victoria#looking-forward>>. This shows that switching for electricity in Queensland in 2018 was also at 28.95%, while the next highest switching rate for gas was NSW at 16.11% in 2018.

<sup>22</sup> AEMC, '2019 Retail Energy Competition Review' (28 June 2019), p 44, 51.

<sup>23</sup> AEMC, '2018 Retail Energy Competition Review' (15 June 2018)

<sup>24</sup> For a discussion of how price dispersion is consistent with an effectively competitive market outcome see, P. Simshauser and P. Whish-Wilson, 'Price discrimination in Australia's retail electricity markets: An analysis of Victoria & Southeast Queensland' (2017) 62(C) *Energy Economics*, p 92-103.

<sup>25</sup> AEMC, '2018 Retail Energy Competition Review' (15 June 2018), p 57-58.

<sup>26</sup> AEMC, '2019 Retail Energy Competition Review' (28 June 2019), p 84.

<sup>27</sup> ESC, 'Victorian Energy Market Report 2017-18' (26 February 2019).

<sup>28</sup> Flat and block tariff offers only.

<sup>29</sup> AEMC, '2019 Retail Energy Competition Review' (28 June 2019), p 83.

<sup>30</sup> AEMC, '2018 Retail Energy Competition Review' (15 June 2018); ACCC, 'Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry – Final Report' (June 2018).

<sup>31</sup> AEMC, '2018 Retail Energy Competition Review' (15 June 2018), p vi.



– particularly penalises those consumers that can least afford the penalty of not achieving a discount.<sup>32</sup>

In June 2019, 65% of Victorian households reported they were confident (i.e. a rating of 7 or higher on a scale of 1 to 10) in their ability to make choices about energy products and services in the market – an improvement of 6% from the six months prior. This was compared to a national average of 62%.<sup>33</sup>

In terms of **performance** and some key outcomes for consumers:

- Consumer satisfaction with the provision of gas and electricity services in Victoria in June 2019 was 69% (unchanged from June 2018), and ranked equal fifth with ACT, behind Queensland (74%), Western Australia (78%), South Australia (71%) and South East Queensland (75%).<sup>34</sup>
- Consumer satisfaction with the level of competition in the energy market in Victoria in June 2019 was 52% (up 2% on June 2018), which was the second highest customer satisfaction rating with competition behind South East Queensland (59%).<sup>35</sup>
- Confidence that the energy market is working in their long term interests in Victoria in June 2019 was 30%, which ranked fifth behind NSW (31%), Queensland (36%), Western Australia (35%) and South East Queensland (38%).<sup>36</sup>
- The average number of complaints per 100 residential customers in Victoria stayed unchanged for electricity (2.9) and gas (2.2) from 2016-17 to 2017-18, but has decreased measurably since 2013-14.<sup>37</sup>

In terms of performance for retailers the ACCC's most recent (August 2019) electricity monitoring report found that across the NEM-based regions the gross margins (EBITDA<sup>38</sup> and operating costs) were highest in Victoria (21%) and NSW (17%). Similarly, EBITDA profit margins on an average residential bill were highest in NSW (8%) and Victoria (7%), with margins in other regions examined (South Australia, South East Queensland and Tasmania) being less than 2%.<sup>39</sup>

Some caution needs to be exercised in assessing retail margins in energy markets. The ACCC notes that a positive net margin may reflect expenditure related to innovation or managing risk, among other factors, which does not indicate uncompetitive behaviour, and as such, margins should be assessed at an industry rather than an individual level.<sup>40</sup> Further, the AEMC highlights that the margins must compensate retailers for non-trivial risks associated with extreme events: these risks being analogous to the risks faced by banks and financial institutions.<sup>41</sup>

It is generally understood that an effectively competitive market should provide incentives for retailers to efficiently spend funds and earn revenue such that excess margins are minimised. Therefore, questions have been raised as to how Victoria has the most competitive market structure, yet has consistently over time generated the highest gross margins across the regions. While Tier 2 providers have greater market shares in Victoria, the ACCC has also noted such retailers do not seem to have pricing strategies focused on aggressively undercutting the Big 3 retailers.<sup>42</sup>

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<sup>32</sup> ACCC, 'Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry – Final Report' (June 2018), p 253.

<sup>33</sup> Consumers are asked: "How confident do you feel in your ability to make choices about energy products and services?". Energy Consumers Australia, *Energy Consumer Sentiment Survey* (June 2019).

<sup>34</sup> ECA, 'Energy Consumer Sentiment Survey' (June 2019), p 16

<sup>35</sup> ECA, 'Energy Consumer Sentiment Survey' (June 2019), p 12

<sup>36</sup> ECA, 'Energy Consumer Sentiment Survey' (June 2019), p 19

<sup>37</sup> ESC, 'Victorian Energy Market Report 2017-18' (26 February 2019), p 30. In 2013-14, the average number of residential complaints per 100 customers was 10 for electricity and 5.2 for gas.

<sup>38</sup> EBITDA stands for earnings before interest tax and amortisation. For an extensive discussion of this measure of profit, see: AEMC, '2017 Retail Energy Competition Review' (25 July 2017), Chapter 10.

<sup>39</sup> ACCC, 'Inquiry into the National Electricity Market: August 2019 Report' (20 August 2019), p 83.

<sup>40</sup> AEMC, '2018 Retail Energy Competition Review' (15 June 2018).

<sup>41</sup> AEMC, '2017 Retail Energy Competition Review' (25 July 2017), p 22.

<sup>42</sup> ACCC, 'Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry – Final Report' (June 2018), p 147.

In future, the SCP outcomes in the electricity market in Victoria and other regions are likely to be influenced by the regulated electricity prices introduced on 1 July 2019. The ACCC in the September 2019 report noted that while it was early days, it had observed, since the introduction of regulated prices, the standing offer prices of customers had fallen significantly and retailers were moving away from advertising conditional discounts based on inconsistent rates.<sup>43</sup> Further, given the different policy objectives that the VDO and the DMO aim to achieve, and the different estimates of the regulated prices, there is the possibility of future divergence in SCP outcomes between Victoria and the other regions.

#### **Mobile telecommunications and the Victorian retail energy market**

Compared to other jurisdictions, Victoria is an example of a more mature deregulated energy market and the SCP measures generally reflect that. Nevertheless, the Victorian retail energy market and retail energy markets across jurisdictions are relatively immature when compared with deregulation in the telecommunications market. In telecommunications, fixed line telephony was subject to managed competition between two providers from 1991 and managed competition between three mobile telephony providers from 1993, while the market was opened to full competition in 1997.<sup>44</sup>

There are clearly differences in the services provided by energy retailers and mobile operators. Mobile services were not considered the same essential service as energy back in the 1990s – but arguments can be made today that mobile services and coverage are essential for the community. Nevertheless, it is interesting to compare the features of the mobile and retailer energy markets using a SCP framework.

- The mobile sector in Australia was deregulated more than two decades ago, and has not been subject to the same type of retail price regulation, (which is now being re-introduced across jurisdictions in the retail energy sector).<sup>45</sup> It has though had wholesale price regulation of interconnection services.
- In terms of structure, there are higher levels of market share among the big three mobile providers (i.e. the three mobile network operators, Telstra, Optus and Vodafone Hutchinson Australia (VHA)) compared to the Big 3 energy retailers in Victoria, and higher levels of market concentration. The three mobile network operators currently have 87% of the market share, and the HHI for the mobile market is close to 3,000.<sup>46,47</sup> The results are summarised in Figure 3 and Figure 4.

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<sup>43</sup> ACCC, 'Inquiry into the National Electricity Market: August 2019 Report' (20 August 2019), p 2.

<sup>44</sup> Productivity Commission, 'Telecommunications Economics and Policy Issues: Staff Information Paper', (March 1997)

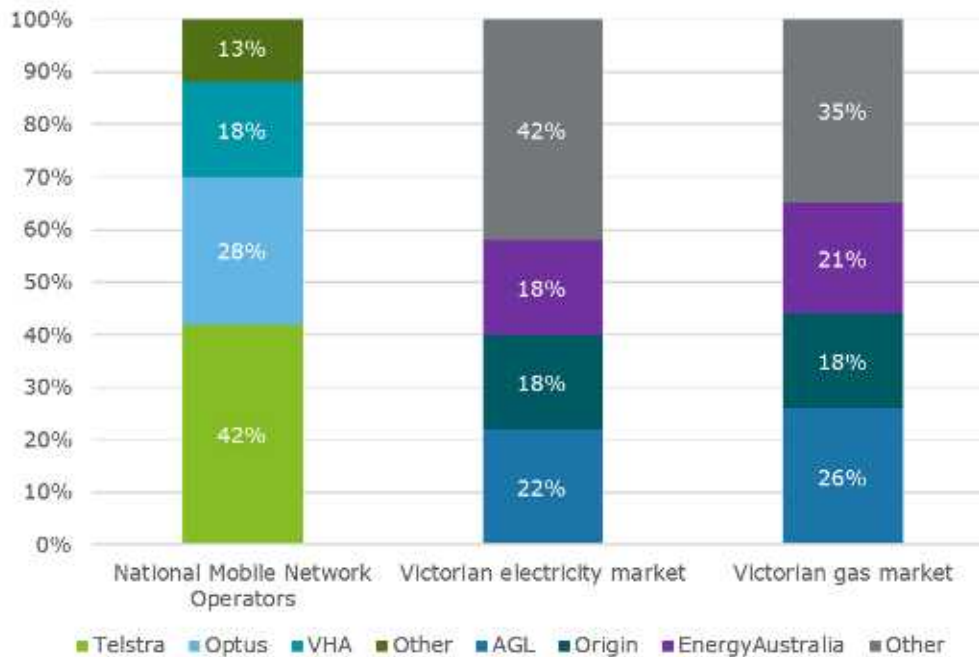
<sup>45</sup> AEMC, '2018 Retail Energy Competition Review' (15 June 2018).

<sup>46</sup> ACCC, 'ACCC Communications Market Report 2017-18' (February 2019).

<sup>47</sup> ACCC, 'Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry – Final Report' (June 2018).



Figure 3: Market shares of the Big 3 retailers in Victoria for gas and electricity compared to the market shares for Mobile Network Operators nationally, 2018



Source: ACCC<sup>48</sup> and ESC.<sup>49</sup>

Notes: The ESC calculates market share by the number of customers. The data presented for the Victorian energy market is for residential consumers only. The ACCC calculates market share on the basis of services in operation.

- In the mobile market the operators face complex cost structures and initially pricing of mobile plans was opaque and involved discounting and handset subsidies to promote take up. Over time, relatively simple fixed pricing plans have become the predominant pricing strategy, even where there is a lot of complexity behind the offer. For example, the value a consumer receives can vary depending on factors such as handset choice, contract term, and the data and voice allowances. In contrast, the volumetric price model in the retail energy market with discounts has been described by the AEMC as hard to understand and compare.<sup>50</sup> The AEMC has suggested that energy retailers, in an attempt to manage risk, have in contrast to the mobile market, priced in such a way that passes on the complexity of the structure of the energy sector to consumers. This has required consumers to interpret more complex tariff structures and discounts.<sup>51</sup>
- A 2017 survey comparing customers who switched electricity companies over the past five years with those switching mobile plans, indicated that fewer consumers found offers in energy easy to compare (62% versus 76%), and more consumers found offers difficult to compare (21% versus 9%).<sup>52</sup>
- Despite high levels of market concentration, the competition on pricing and non-price products in the mobile market has led to conclusions that it is an effectively competitive market. There has been both decreasing prices for customers and innovation through the adoption of new mobile technologies over time, such as the moves from 3G to 4G, and now 5G technologies. In contrast, despite much lower levels of concentration in the Victorian retail energy market,

<sup>48</sup> ACCC, 'ACCC Communications Market Report 2017-18' (February 2019), p 27.

<sup>49</sup> ESC, 'Victorian Energy Market Report 2017-18' (26 February 2019).

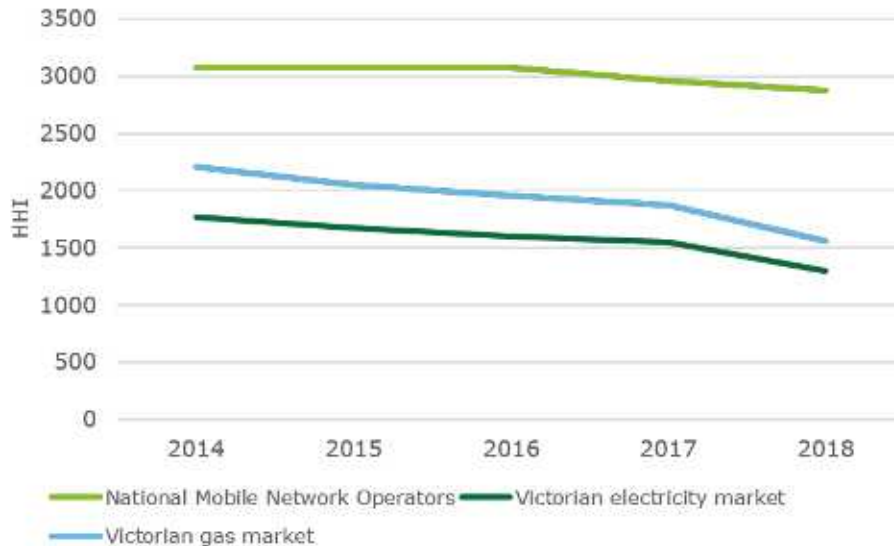
<sup>50</sup> AEMC, '2017 Retail Energy Competition Review' (25 July 2017), p 81.

<sup>51</sup> AEMC, '2018 Retail Energy Competition Review' (15 June 2018).

<sup>52</sup> AEMC, '2017 Retail Energy Competition Review' (25 July 2017), p 80.

concerns were raised in the review of the Victorian energy market completed in August 2017<sup>53</sup> that there were market failures arising due to the high cost of competition, the structure of the market - with few retailers having the bulk of customers - and confusing practices.

Figure 4: Market concentration (as measured by HHI) 2014 to 2018 National Mobile Network Operators versus Victorian energy market



Source: ACCC<sup>54</sup> and AEMC<sup>55</sup>.

Note: The ACCC calculates market share on the basis of services in operation at the end of each financial year. The market shares for the three mobile networks operator has been used to estimate the HHI, as there was no breakdown provided of the other providers. The estimated HHI in this chart is therefore likely to slightly underestimate the true HHI. The AEMC calculates the HHI for electricity at the end of the calendar year, and for gas at the end of the financial year.

### Question 3

#### **What sort of innovation would we hope to encourage in a competitive market?**

The transformation occurring across the energy sector with more distributed energy resources, moves towards decarbonisation, and increased digitalisation across the economy, presents opportunities and challenges for the retail energy sector. In particular, the evolution of the 'internet of things' (IoT) along with more connected devices, and consumers with access to smart meters, smart phones and better access to their energy data, enables new ways for energy services to be provided.

The innovation that effectively competitive retail energy markets should deliver, and it would be hoped are encouraged, are those that are consumer-focused and address the current 'pain points' or issues identified with conduct or performance outcomes in the market. It is hoped that new technologies and innovations would deal with the following interrelated issues:

- empower consumers and reduce the complexity identified with engaging with the retail energy market. This would in turn reduce confusion and increase consumer confidence in their ability to make decisions on the best energy plans for them.
- enhance affordability, through providing consumers with greater ability to better control their bills. This could go as far as retailers providing home energy management products and

<sup>53</sup> Independent Review Panel, 'Independent Review into the Electricity and Gas Retail Markets in Victoria' (13 August 2017).

<sup>54</sup> ACCC, 'ACCC Communications Market Report 2017-18' (February 2019).

<sup>55</sup> AEMC, 'Retail energy competition review 2019: Victoria' <<https://2019.aemc.gov.au/competition-review/jurisdiction/victoria#looking-forward>>.



services that allow consumers to utilise remote management and automation for 'smart homes' to do such things as automated irrigation, remote lighting, as well as electricity self-generation and consumption.

- result in tariff structures and product and service offerings that are more clearly aligned with consumer preferences – for example in relation to renewable energy.

#### **Empowering consumers and enhancing affordability – the consumer data right**

In attempts to reduce complexity and get consumers on the best bill for their needs, consumers have engaged with both public and private comparator sites.

In the first three months after the introduction of the Victorian Energy Compare website, it was observed that switching rates rose compared to the previous quarter, from 7.9% to 9.1% for electricity and from 6.5% to 7.7% for gas.<sup>56</sup> While these sites are useful for providing consumers with information about more suitable offers for their needs, there are known limitations in terms of the number of offers on some private comparator sites.<sup>57</sup> Seeking and comparing alternative offers also still involves some time investment by consumers.

The consumer data right (CDR) for energy is likely to be implemented in 2020.<sup>58</sup> By improving access to energy data and allowing consumers to more easily authorise third parties to access the data for the purposes of providing energy analysis and offers, the CDR creates the opportunity for consumers to work with providers of software platforms with smart comparison algorithms – i.e. the next generation of price comparators. It is foreseeable that the CDR will enable customers with just a few clicks on their smart phones, to find the best market offer for them and be switched immediately. Such apps may also go further, as they could potentially use the consumer's usage profile to inform them about the financial viability of investment in distributed energy resources, such as solar and/or batteries.

In such a frictionless energy market where consumers are empowered and can easily switch to the best offer for them, to remain competitive, retailers will need to respond by supplying the best pricing offers to consumers or considering additional value they can provide. This will enhance affordability as it would improve the likelihood that consumers are matched to an energy offer that best suits their needs. Vulnerable consumers particularly stand to benefit from a CDR as, if they are on the best plan for their needs, it will reduce the risk of being under financial hardship.<sup>59</sup>

#### **Consumer interest in new products**

In the Energy Consumers Australia (ECA) June 2019 survey, it was found that Victoria is the jurisdiction with the highest uptake of digital smart meters (79%) due to a State Government program, but only 21% of consumers use them to control energy costs. Further, there is strong interest in Victorian households of adopting new technologies such as batteries, solar, home energy management systems - although less so in the next 12 months. That is:

- 56% who have solar panels have an interest in adding battery storage systems
- 32% who do not have solar panels are considering installing them
- 14% are interested in installing home energy management systems
- 29% who do not have a battery storage system are considering installing one.<sup>60</sup>

The greater take up and interest in technologies across the NEM that help to control usage coincided with an increase in consumer bills. High electricity prices and falling costs of supplying solar and batteries are leading to significant growth in the consumer adoption of distributed energy

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<sup>56</sup> AEMC, '2019 Retail Energy Competition Review' (28 June 2019).

<sup>57</sup> ACCC, 'Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry – Final Report' (June 2018), p 275.

<sup>58</sup> COAG Energy Council, *Meeting Communiqué* (19 December 2018) <<http://coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/21st%20COAG%20Energy%20Council%20Communique.pdf>>.

<sup>59</sup> ACCC, 'Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry – Final Report' (June 2018).

<sup>60</sup> Energy Consumers Australia, *Energy Consumer Sentiment Survey* (June 2019).

resources (DER) across the NEM.<sup>61</sup> Over the last year Victoria has experienced the largest growth in rooftop PV installations of all jurisdictions.<sup>62</sup>

In the past, concerns have been raised that retailers do not have the right incentives to provide services that decrease usage and revenues and potentially increases costs. However, this is increasingly not the case. Not only are the costs of both batteries and solar decreasing rapidly,<sup>63</sup> but the combination of solar and battery now has the potential to provide retailers that are vertically-integrated behind the meter with additional revenue streams.

A fleet of batteries and solar is a virtual power plant (VPP) that can provide a financial hedging product in the wholesale electricity market, frequency control services to stabilise the grid, and a congestion management service for distribution networks. Further, with increasing consumer interest in such services, retailers that fail to provide these product offerings in the future risk losing a large segment of the customer base. There are also new energy service providers that are adopting these technologies and providing them to consumers, which means existing retailers need to develop or partner with these new providers to remain competitive.<sup>64</sup>

If batteries are increasingly attractive for retailers to offer because of the additional revenue streams they create in other markets or the costs electricity retailers avoid (e.g. wholesale contracting through providing a physical hedge for a retailer), is there the potential for future tariff models to evolve that mimics the handset subsidies that were used in the mobile market to acquire customers? That is, would retailers eventually subsidise batteries, with some of the cost being built into the price of supplying electricity services.

#### **Some innovation is occurring**

There is some innovation currently occurring in the market by retailers to address the challenges identified with the sector.

The AER has identified a range of new technologies and programs developed by retailers to improve the delivery of services to customers, including:

- payment assistance methods outside of hardship plans such as bill smoothing
- technology to increase ease of making payments such as Simply Energy adopting PayPal to manage energy bills, and AGL using SMS responses to prompt bill payments.<sup>65</sup>

Retailers are also now providing assistance and/or information to empower customers to manage their energy usage. The focus on affordability appears to have created a new need for retailers to compete over how they address the concerns of their customer bases. Examples of retailers assisting customers with their energy consumption include:

- ActewAGL holding free energy saving workshops to assist customers in energy efficiency to reduce energy costs.<sup>66</sup>
- Aurora Energy in Tasmania sending energy home efficiency experts and financial counsellors to the homes of financially vulnerable customers to assist them in adopting new innovations, taking account of their financial situation and energy usage.<sup>67</sup>
- Powershop Australia introduced a behavioural demand response program entitled 'Curb Your Power' in Victoria in 2017, under which consumers are paid a fee for reducing power usage at

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<sup>61</sup> AEMC, '2018 Retail Energy Competition Review' (15 June 2018).

<sup>62</sup> Australian Energy Council, 'Solar Report: Quarter 1 2019' (2019), which suggests this is due to the Victorian Government's Solar Home Program rebate introduced in August 2018.

<sup>63</sup> AEMC, '2018 Retail Energy Competition Review' (15 June 2018). This highlights that based on 2017 estimate by the International Energy Agency (IEA) the costs of new solar PV systems has fallen by 70% since 2010, and the cost of batteries has fallen by 40% over same timeframe.

<sup>64</sup> AEMC, '2018 Retail Energy Competition Review' (15 June 2018).

<sup>65</sup> AER, 'Annual report on compliance and performance of the retail energy market 2017-18' (December 2018).

<sup>66</sup> AER, 'Annual report on compliance and performance of the retail energy market 2017-18' (December 2018).

<sup>67</sup> ACCC, 'Restoring electricity affordability and Australia's competitive advantage: Retail Electricity Pricing Inquiry – Final Report' (June 2018).



certain times specified by Powershop. 'Curb Your Power' utilises a smartphone app to contact customers and is estimated to have attracted more than 10,000 customers to Powershop.<sup>68</sup>

A number of retailers, such as AGL, Simply Energy, Energy Locals, ActewAGL, Origin Energy, EnergyAustralia, Red Energy and Powershop are all now offering solar and battery products to residential customers. The AEMC indicated that some of the retailers interviewed said they feel obligated to offer these products to retain specific customers, while other retailers are focused on this area in light of their future strategy and retail offers.<sup>69</sup>

While there is the potential for competition to result in an increase in the number of innovative devices, there are concerns that new products and services may also add complexity to the already difficult task of choosing an energy plan. In particular, there may be barriers to adopting smart devices, including digital/energy illiteracy and limited benefits. A recent trial of household adoption of smart lighting devices found that only a quarter of households actually used them regularly, a quarter were unable to install them and a quarter did not try.<sup>70</sup>

#### Question 4

##### **What measures would you use to undertake your assessment?**

To measure and assess the effectiveness of competition in the retail energy market, as noted in **Question 1**, the SCP framework, along with the measures, provides a useful starting point. As also identified, a complete assessment involves examining the measures in combination, along with trends over time.

As the example in **Question 2** highlights with the mobile market, a sole focus on one measure can result in incorrect conclusions being drawn about the competitiveness of a market. In the mobile market, despite high levels of concentration, the conduct and how the mobile network operators have competed with each other on pricing plans and product offerings has led to a market that has often been characterised as effectively competitive.

The typical measures that have been used in the SCP framework by the ACCC and AEMC, are summarised in Table 1 below and are generally measures that should be adopted to undertake an assessment of the competitiveness of the retail energy market.

In addition to the traditional measures used, the Essential Services Commission should also consider:

- to assess conduct, and pricing strategies and consumer conduct and outcomes – gathering information on the **number of consumers on each type of contract**. This information would also be useful in assessing the impact that price regulation via the VDO has had on offers. While the introduction of the VDO in 1 July has resulted in some low market offers being withdrawn, it is unclear what proportion of active customers were on those lower price plans.
- to assess conduct and innovation – monitoring how many retailers are **bundling solar and batteries with an energy offer**, and what new business models arise from the CDR for energy.
- as a performance measure - assessing **affordability** of electricity and gas bills using a framework similar to that adopted by the AER, which examines the share of household income spent on an annual energy bills by Victorian customers across different income classes. However, as noted in **Question 1**, this measure should not necessarily be considered a measure of the effectiveness of competition. The result may in fact highlight a broader issue with an economy that is slowing down and a greater need for more consumers to access assistance.

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<sup>68</sup> Australian Renewable Energy Agency, *Powershop Australia's Demand Response Program* <<https://arena.gov.au/projects/powershop-australias-demand-response-program/>>.

<sup>69</sup> AEMC, '2019 Retail Energy Competition Review' (28 June 2019), p 44.

<sup>70</sup> L. Nicholls, Y. Strengers and S. Tirado, 'Smart Home Control: Exploring the potential for off-the-shelf enabling technologies in energy vulnerable and other households' (August 2017) <[https://gallery.mailchimp.com/b38874b25e686137780eb836e/files/5d00ecfb-2098-4148-89dc-49b72b98d0aa/ECA\\_SHC\\_Final\\_Report\\_CURRENT.pdf](https://gallery.mailchimp.com/b38874b25e686137780eb836e/files/5d00ecfb-2098-4148-89dc-49b72b98d0aa/ECA_SHC_Final_Report_CURRENT.pdf)>.

- interviews with retailers to understand where they are seeing issues in the market, and with new technology service providers, who have the potential to disrupt the structure of the market in the future.
- accounting for the introduction of any new regulation or reforms that might impact on how businesses will compete in the market and the prices, products and services they will offer. The most recent example being the VDO.
- the extent to which businesses that are well-established in other sectors choose to participate in the retail energy sector, and what is their market share? For example, if an established bank, supermarket or battery owner are actively selling retail energy, then this should be a sign of healthy competition.
- the capacity of technology changes in generation to assist with hedging by stand-alone retailers, and erode any possible advantage the Big 3's hedged coal portfolios deliver.

Table 1: Measures to assess competition and efficiency in the Victorian energy market

Structure	Conduct	Performance
<ul style="list-style-type: none"> <li>• Market concentration including:                             <ul style="list-style-type: none"> <li>- the number of firms operating in the market</li> <li>- their respective share of total production</li> <li>- HHI measures</li> </ul> </li> <li>• The structure of firms; specifically, the degree of vertical and horizontal integration within the market.</li> <li>• Ownership structure: in particular, whether firms are government-owned or privately-owned.</li> <li>• The ease of entry, expansion and exit to the sector – how this is influenced by ownership</li> <li>• The number and the types of consumers in the market, and their demand for services</li> </ul>	<ul style="list-style-type: none"> <li>• Pricing and product strategies including:                             <ul style="list-style-type: none"> <li>- price levels</li> <li>- discounting behaviour</li> <li>- price dispersion</li> <li>- service offerings, <b>bundling of solar and/or batteries</b></li> <li>- <b>number of consumers on each type of contract</b></li> </ul> </li> <li>• Expenditure on research and development.</li> <li>• Expenditure on advertising/marketing.</li> <li>• Customer engagement with the market, including:                             <ul style="list-style-type: none"> <li>- switching behaviour</li> <li>- the proportion on the VDO</li> <li>- consumer confidence in their ability to make decisions in the market</li> <li>- interest in new technologies</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Overall retail profit margins (EBITDA)</li> <li>• Levels of customer satisfaction with the service provided, the quality of service, value for money.</li> <li>• Number of customer complaints.</li> <li>• Number of disconnections and the processes followed prior to disconnection.</li> <li>• Number of customers on hardship programs.</li> <li>• Level of customer debt.</li> <li>• <b>Affordability</b> as measured through the share of household income spent on an annual energy bill.</li> </ul>
<p align="center"><b>New regulations or reforms (for example, the VDO and Payment Difficulty Framework)</b></p>		



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