Oakley Greenwood

Efficiency of Gas Prices for Small Customers in NSW

prepared for:
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DISCLAIMER

This report has been prepared for IPART to examine the gas prices an efficient retailer would charge NSW small (end use) customers in 2018.

The analysis and information provided in this report is derived in part from information prepared by a range of parties other than Oakley Greenwood (OGW), almost all of which are publicly available. OGW explicitly disclaims liability for any errors or omissions in that information, or any other aspect of the validity of that information. We also disclaim liability for the use of any information in this report by any party for any purpose other than the intended purpose.

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Table of CONTENTS

Table of FIGURES

Table of TABLES

1. Executive Summary

The deregulation of gas retail offers to residential and small business consumers occurred in July 2017 in NSW.

The Independent Pricing and Regulatory Tribunal of NSW (IPART) is required to monitor and report annually to the Minister for Energy and Utilities on the performance and competitiveness of the retail gas market.

This report reviews gas price movements and their corresponding components in NSW in 2018-19, in addition to its review of the competitiveness of the gas market during 2017-18.

The approach Oakley Greenwood (OGW) have adopted to estimate the retail cost component involves inferring them based on the total cost to the customer of each market offer, less the costs that we have calculated for other parts (cost components) of the gas value chain including:

- Wholesale cost component;
- Transmission cost component; and
- Distribution cost component.

Where possible, OGW has based its assumptions and calculations on revealed published information, or information that could be reasonably inferred from publicly available information or specific information garnered from clients confidentially.

That said, in some cases, there are multiple credible sources of information that are available (both publicly and privately) that could be used to inform an input assumption. Where this is the case, OGW has used its industry experience to identify which one/s should be relied upon, and which one/s should be excluded from the analysis or used as supporting information.

1.1. Our underlying definition of what constitutes an efficient retail gas price

Consistent with economic theory, we are interested in the forward-looking efficient opportunity costs (i.e., the value that would be obtained from their next best use) of providing gas services for each of the two years' that are being modelled.

This means that we are not interested in what gas retailers have historically paid for the inputs and what they may still be, but the opportunity cost to that gas retailer of deciding to utilise that legacy gas to provide gas services to end customers over the next year at the going market rate for gas at the time they set their retail tariff offers.

This is because if that retailer didn't utilise that gas to supply end customers over the next year, they could have sold that gas into the market and generated revenue equivalent to those existing market rates – be that a gain or loss. A gain is understandable and a loss would be inevitable if their legacy gas is above the going market price as they could not sell it competitively into the market.

Critically, this also aligns with the cost that a new entrant would have to incur to purchase gas to provide retail gas services in that year and this is the chosen benchmark.

1.2. Retail Offers

The retail offers examined were obtained from the Energy Made Easy website for the periods 2017-18 and 2018-19 for both residential and small business consumers. Only market offers were considered with full discounts applied as representation of the most efficient retail offers within the distribution zone.

The distribution zones[1] covered in this draft report are:

- Jemena (Sydney)
- Evoenergy (formerly ActewAGL) - Queanbeyan
- Australian Gas Networks - Albury

These are considered representative of the diversity of gas consumers within NSW. The typical consumption for a connection in each distribution zone was taken as the unweighted average for the region obtained from Access Arrangement load forecasts, OGW data, or assumptions from IPART. Residential consumers within high consumption regions that are influenced by gas heating loads had weightings applied to provide a profile for summer and winter periods.

Table 1 Summary of average residential and small business indicative gas bills (nom $) in NSW.

Distribution region	Customer type	Annual Consumption	2017-18 Indicative bill	2018-19 Indicative bill	Percent change
Jemena - Sydney	Residential	20 GJ	747.28	739.50	-1.0%
Jemena - Sydney	Small Business	184 GJ	4515.58	4536.44	0.5%
AGN - Albury	Residential	42 GJ	1152.23	1156.01	0.3%
AGN - Albury	Small Business	209 GJ	4109.73	4137.18	0.7%
Evoenergy - Queanbeyan	Residential	39 GJ	1589.23	1555.39	-2.1%
Evoenergy - Queanbeyan	Small Business	246 GJ	6166.67	6105.56	-1.0%

Indicative bill totals are an average of market offers only with discounts applied. Costs are exclusive of GST.

Across the board average retail offers have been relatively flat or with a modest decrease based on the average indicative bill.

Examination of the bottom third of the market offers shown in Table 2 shows for the most competitive market offers, the indicative retail bill has decreased for all distribution zones.

- The methodology assumes that an efficient market will be revealed in the best and competitive market offers available and has been drawn from analysis in Appendix A that identifies the threshold to be in the bottom third of the offers.
- This type of analysis also shows the potential savings available to customers, particularly in the regions, from shopping around.

1 The Evoenergy Nowra distribution zone was intended to be investigated; however, distribution network costs weren't available for the 2018-19 timeframe at the time of finalising the report.

Table 2 Summary of the bottom third of residential indicative gas bills (nom $) in NSW.

Distribution region	Customer type	Annual Consumption	2017-18 Indicative bill	2018-19 Indicative bill	Percent change
Jemena - Sydney	Residential	20 GJ	742.45	728.92	-1.8%
Jemena - Sydney	Small Business	184 GJ	4159.42	4086.91	-1.7%
AGN - Albury	Residential	42 GJ	1088.29	1079.99	-0.8%
AGN - Albury	Small Business	209 GJ	3791.59	3747.73	-1.2%
Evoenergy - Queanbeyan	Residential	39 GJ	1526.56	1474.55	-3.4%
Evoenergy - Queanbeyan	Small Business	246 GJ	5751.36	5751.79	0.0%

1.3. Wholesale cost component

A single wholesale cost has been assumed for each reference year, consistent with the methodology, to represent the new entrant wholesale costs. The wholesale costs have been derived and checked from three sources:

- Confidential contract data from Energy and Management Services (EMS – specialist sub-contractor to OGW)
- Gas price data from the Sydney STTM and Victorian DWGM
- ACCC Gas Inquiry Interim Report (Vic and SA producers)

For wholesale gas pricing for the period 2017-18 a strong alignment with all three sources existed with all sources being within $0.24 /GJ or 3% range.

Pricing at the Sydney STTM is becoming more representative of the wholesale gas price for Sydney, whilst also improving the transparency of gas costs. This is supported with the emergence of retail offers now being offered for larger aggregated retail loads that are entirely sourced and exposed to the STTM pricing. These retail offers are competitive with other more traditional offers available in the market through retailers and producers. Additionally, there is a strong correlation with the Victorian DWGM.

The wholesale gas assumption for the period 2018-19 was calculated based on an average of confidential contracts for gas supply in the period provided by EMS along with the forward pricing from the Victorian gas futures as would have been accessed in March 2018. This was assumed to be a suitable forward view of the wholesale gas pricing at the time the retail contracts would have been set. This average of $9.62/GJ was compared to the ACCC price discovery of contracts struck for pricing in 2019 which was $9.40/GJ[2] and was considered representative.

Wholesale gas pricing has shown some contraction over the last few years. However, looking forward the assumption for wholesale pricing does indicate an increase of 13.4% and is supported by an increase in the contract price discovery from the ACCC and the current Victorian gas futures.

2 ACCC, Gas inquiry 2017-2020 Interim report, July 2018.

Table 3: Wholesale gas price assumptions ($ nom)

Source	2017-18 ($/GJ)	2018-19 ($/GJ)	Percent Change (nom)
Average of EMS and STTM	8.48	9.62	13.4%

1.4. Transmission cost component

A majority of gas that is provided to NSW demand zones is from Victoria or South Australia and now a proportion from Queensland. Victorian supply has been assumed from Longford via Jemena's Eastern Gas Pipeline (EGP) or via the Victorian DTS, and supply from SA and Queensland via APA Group's Moomba to Sydney Pipeline (MSP). The distribution zones are fed from a combination of the different pipelines, with the proportionate use of each pipeline determined using daily flow data from the Gas Bulletin Board. Most transmission tariffs are publicly available or regulated and these were used to calculate the transmission cost component delivered to the different distribution zone.

Most gas supply contracts are based on a load factor of 1.2 and deviation to this annual load factor cost is calculated using a proxy to the cost of underground storage services on the network. These are typically confidential contracts, but estimations have been made for the cost of storage from a number of public sources. The load factor has been assumed as 2.5 (MDQ*365/ACQ) for these smaller customers for all bill calculations and is considered indicative of the storage requirements to supply such peakier loads. Table 4 shows the summary of transmission costs components used in the calculations.

Table 4 Summary of transmission cost component for delivery to different distribution zones.

Description	2017-2018 ($/GJ nom)	2018-2019 ($/GJ nom)	Percent Change (nom)
Transmission cost (delivery Jemena, Evoenergy zones)	3.87	3.95	2.3%
Transmission cost (delivery AGN zones Vic border)	2.25	2.31	2.4%

1.5. Distribution Cost Component

Distribution cost components are available in the public domain and most are regulated by the AER. Most distribution cost components have seen a downward trend in pricing due to entering into new Access Arrangements in recent years with lower WACCs that are a result of lower funding costs since the easing of the global financial crisis. The one network that reported an increase was Evoenergy.

Table 5 Summary of distribution costs per distribution zone.

Distribution region	Customer type	2017-2018 ($ nom)	2018-2019 ($ nom)	Percent Change (nom)
Jemena - Sydney	Residential	311.66	303.44	-2.6%
Jemena - Sydney Country	Residential	304.88	297.06	-2.6%

Jemena - Sydney Coastal	Small Business	1498.37	1447.63	-3.4%
Jemena - Sydney Country	Small Business	1359.46	1313.75	-3.4%
AGN - Albury	Residential	285.96	271.84	-4.9%
	Small Business	765.59	727.80	-4.9%
Evoenergy - Queanbeyan	Residential	369.06	386.70	4.8%
	Small Business	1627.83	1696.80	4.2%

1.6. Retail cost component

Referring to Table 6, the average indicative bills are either flat or are showing a modest decrease and the retail component – which in this context, includes both the retail operating cost and retail margin - is a residual of the other cost assumptions, and hence exhibits the same trend.

The retail cost components of each region show a decrease in nominal terms for the two time periods in question. Total retail costs are lowest in the Jemena region, possibly due to its large customer base, lower average gas consumption and hence indicative bills (which reduces the retail margin, in dollar terms) and the level of competition (using the number of retailers as the indicator) in the distribution zone.

The smaller regions do have some competition, but the retail costs are much higher than in the urban areas due to a higher overall average gas consumption (approximately double) and potentially due to their offers being dominated by the "Big Three" retailers.

Interestingly while they do have higher average consumption within the region, which should be attractive for sellers, they have a small customer base with an entrenched presence by one of the "Big Three" retailers. This may present a barrier to entry, in that it may lead to higher acquisition costs (per customer) or it may create consequential barriers, for example, transmission pipeline capacity may be limited for new entrants – although we stress that this was not discernible in this study.

Table 6 Summary of average retail cost component

Distribution region	Customer type	2017-2018 ($ nom)	2018-2019 ($ nom)	Percent Change (nom)
Jemena - Sydney	Residential	192.32	167.57	-12.9%
	Small Business	776.47	703.55	-9.4%
AGN - Albury	Residential	419.93	387.74	-7.7%
	Small Business	1124.45	940.41	-16.4%
Evoenergy - Queanbeyan	Residential	738.68	639.34	-13.4%
	Small Business	1501.77	1069.72	-28.8%

Table 7 Summary of bottom third of retail cost component for residential market offers

Distribution region	Customer type	2017-2018 ($ nom)	2018-2019 ($ nom)	Percent Change (nom)
Jemena - Sydney	Residential	158.15	126.99	-19.7%
	Small Business	405.87	245.20	-39.6%
AGN - Albury	Residential	355.98	311.72	-12.4%
	Small Business	806.31	550.95	-31.7%
Evoenergy - Queanbeyan	Residential	676.01	558.50	-17.4%
	Small Business	1086.47	715.96	-34.1%

As indicated above, the retail component is made up of both a retail margin (profit) and a retail operating cost, which in turn is comprised of a number of different functions and activities that are generally categorised as either:

- Cost to maintain services to existing customers; and
- Cost to acquire new customers and retain existing customers.

Given that there is no publicly available forecast information relating to the retail operating costs and retail margins of each and every retailer operating in the NSW gas market, it is impossible to be definitive as to what assumptions each retailer would have made in relation to this cost component when developing their 2018/19 retail prices for NSW Markets. However, information gleaned from two of the Big Three retailers' 2018 annual reports provides some insight into how their costs changed in the 2018 financial year, and what drove those cost changes.

Both Origin Energy and AGL reported increased costs from the FY17 to FY18 years attributed to:

- Increases in cost to serve and cost to acquire,
- Increases in bad and doubtful debts, and
- Ongoing expenditure in data analytics and increased digital engagement.

Given the continued increase in energy prices (including retail gas prices in NSW), and the continued public focus on energy affordability issues, retailers are likely to have priced into their 2018/19 offers, higher operating costs or risk premiums related that are correlated with higher gas prices. Similarly, competition - particularly in the Sydney gas market, appears to be significant. Hence, this is also likely to have contributed to expectations regarding the costs of campaigns and advertising.

Notwithstanding these cost increases, the overall retail component appears to have declined on average, hence it would appear that any forecast underlying cost increase - including those stemming from retail competition – have been offset by retailers accepting lower retail margins. This aligns with some of the information reported publicly by AGL for the 2018 financial year, for example AGL stated that its:

> *"consumer gas gross margin was $250 million, down 18.6%, as a result of increased gas commodity costs (transfer price) and margin compression driven by increased churn and customers product switching to lower priced products within a highly competitive market".*

It further stated that its:

> *"consumer gross margin per customer account was $192 per account, down 11.5%, as gross margin decreased on increased market activity"*

1.6.1. Residential retail offers

The Sydney average residential retail component has shown a reduction of -12.9% and the bottom third of the market offers show a reduction of -19.7% over the period. Despite including an allowance for a retail margin, the retail component in Sydney on average ($167.57) and of the bottom third of offers ($126.99) is well below the average retail operating costs that have previously been reported by two of the Big Three retailers (AGL and Origin), who have reported combined cost to serve and cost to grow of:

- AGL - $183 in FY2018[3]; and
- Origin - $170 in FY2018[4].

There are a significant number of retailers operating in the region – another important sign of a competitive market. Overall, it would appear to us that efficient retail gas prices are on average being revealed to the Sydney residential market with the bottom third cost component below the published customer costs indicated by Origin and AGL.

The average residential retail component in Albury has shown a reduction of -7.7% and the bottom third of the market offers indicates a reduction of -12.4% over the period.

The difference in the magnitude of the retail components, as compared to those inferred from the Sydney offers (e.g., $387.74 on average in Albury, $167.57 on average in Sydney) may reflect:

- The fact that average household consumption is greater by a factor of two compared to the Sydney distribution zone,
- The level of scale achievable in the Albury market, which may impact the costs of entering the market, recruiting and retaining customers in that market, or
- The underlying level of competition in the market. While there are more market offers available in 2018/19 it is still only served by the big three retailers.

As competition in this market matures, one would expect that unless there are underlying barriers to entry – such as there being a constraint on transporting gas to the Albury region – more competitors may enter this market if the analysis is not reflective of the underlying efficient cost of providing retail services in this market.

The average residential retail component in Queanbeyan has shown a reduction of -13.4% and the bottom third of the market offers show a reduction of -17.4% over the period. However, the average underlying retail component is significantly higher than in either Albury or Sydney.

When compared to Sydney, this difference may be due to the difference in consumption, however this does not explain the significant difference as compared to the Albury market. Therefore, it may in part reflect the level of scale achievable in this market, as compared to say the Sydney market. This in turn would impact upon the cost of recruitment and retention per customer.

3 AGL, 2018 Annual Report, page 31

4 Origin Energy, Directors' Report For the Year Ended 30 June 2018, Page 56

However, these factors are less of an issue when a comparison is made to the Albury market, hence it is difficult to see that this would explain the sizable difference in the retail component in Queanbeyan as compared to those other regions.

1.6.2. Small business retail offers

The Sydney small business retail component of the average market offer has declined by -9.4% in 2018/19, as compared to 2017/18. This has brought the average retail component down to $703.55.

It is also well above the average retail costs and margins that have previously been reported by two of the Big Three retailers (AGL and Origin).

That said, the average retail component of the bottom third of market offers is $245.20 – down from $405.87 in 2017/18. This figure is well within the range expected of an efficient retailer, hence it indicates that when a broader analysis of a selection of "cheaper" offers is assessed, there appears to be quite a number of market offers that would objectively be assessed as being reflective of efficient costs.

Overall, it would appear that efficient retail gas prices are on average being revealed to the Sydney market.

The retail component of the average small business market offer in Albury has declined by -16.4% in 2018/19, as compared to 2017/18. This has brought the average retail component down to $940.41 in 2018/19. The average of the bottom third of market offers in 2018/19 is below this again, at $550.95. Both figures are above the average retail costs and margins that have previously been reported by two of the Big Three retailers (AGL and Origin). It is also above the retail components revealed in the Sydney commercial market.

Again, the difference may in part reflect the level of scale achievable in the Albury market, as compared to say the Sydney market, or it may reflect other characteristics of the market. However, the retail component of the minimum market offer – which is $443.23, down from $634.72 in 2017/18 - is much closer to the range expected of an efficient retailer. This may be suggestive of competition evolving in the market.

Overall, the retail component of the average small business market offer in Queanbeyan has declined by -28.8% in 2018/19, as compared to 2017/18. This has brought the average retail component down to $1069.72 in 2018/19. The average of the bottom third of market offers in 2018/19 is below this again, at $715.96.

The Queanbeyan retail component for both the average and bottom third retail components have had significant decreases (-28.8% and 34.1%) from the 2017-18 year and the 2018-19 year. The overall retail bill has remained steady for both classifications however all the other cost components have increased with the residual retail cost component absorbing these increases.

1.7. Conclusion

Overall, the indicative average retail gas bills have remained flat or shown a modest decline across the two periods. Competitive market offers (bottom third) have shown a strong downward trend in all distribution zones. The retail component of these offers indicates a significant contraction between 12.4% to 19.7%. Wholesale cost components, based on the assumptions, have shown a reasonable increase over the two periods, however these appear to have been offset by decreased distribution cost components and retail cost components.

2. Introduction

IPART has been required to monitor and report annually to the Minister for Energy and Utilities on the performance and competitiveness of the retail electricity market for residential and small business customers. This monitoring role was extended to gas this year following the deregulation of gas retail prices on 1 July 2017.

The Minister has asked IPART to review gas price movements in NSW in 2018-19, in addition to its review of the competitiveness of the gas market during 2017-18.

While this is IPART's first formal review of the competitiveness of the gas market, last year the Minister asked IPART to report on whether gas price increases in July 2017 were consistent with a competitive market.

All costs and totals within the report are exclusive of GST. Any average cost data is calculated based on market offers only inclusive of all discounts applied.

3. Objective of this report

In accordance with our Terms of Reference, the overarching objective of this project is to assess whether the "*gas price changes that occurred in July 2018 reflect efficient costs of supplying NSW residential and small business gas customers in a competitive market*".

In its Terms of Reference, IPART has also indicated that analysis should include:

- For an efficient retailer:
  - For 2017-18, the total costs and cost breakdown, of supplying residential and small gas customers, by region across NSW.
  - For each cost component, estimates of how the costs have changed by region across NSW between 2017-18 and 2018-19, and an explanation of what is driving any changes in these cost components.
  - As a result of any cost changes, an estimate of the cost breakdown and total costs of supplying small gas customers by region across NSW for 2018-19.
- An assessment of whether the price changes that occurred in NSW in July 2018 reflect efficient costs of supplying small gas customers in a competitive market.

4. Caveats

As not all parts of the gas value chain are priced separately and publicly available, any analysis of the cost drivers affecting gas retail prices requires a number of assumptions to be made.

Where possible, Oakley Greenwood (OGW) has based its assumptions on revealed published information, or information that could be reasonably inferred from publicly available information or specific information garnered from clients confidentially.

That said, in some cases, there are multiple credible sources of information that are available (both publicly and privately) that could be used to inform an input assumption. Where this is the case, OGW has used its industry experience to identify which one/s should be relied upon, and which one/s should be excluded from the analysis or used as supporting information. Where this is the case, we have outlined our reasoning underpinning our decisions.

Finally, the approach we have adopted to estimate the retail operating costs involves inferring them based on the total cost to the customer of each market offer, less the costs that we have assumed for other parts of the gas value chain.

This means that they may be at times some sensitivity to small changes in other input assumptions. This is not to imply that they are not reliable, rather, that they should not be considered as a point estimate, rather a guide to a reasonable range of what retail operating costs may be inferred from the market offers.

5. Overarching methodology and key assumptions

5.1. Our underlying definition of what constitutes an efficient retail gas price

The underlying objective of this project is to assess "*whether the gas price changes that occurred in July 2018 reflect efficient costs of supplying NSW residential and small business gas customers in a competitive market*". As such, it is important to first define what is meant by (or what constitutes) an efficient retail gas price.

To this end, in estimating an efficient retail gas price for each of the customer types that IPART has defined, we have had regard to the following principles:

- Consistent with economic theory, we are interested in the *forward-looking efficient opportunity costs* (i.e., the value that would be obtained from their next best use) of providing gas services for each of the two years' that are being modelled. This means that we are not interested in what gas retailers have historically paid for the inputs that they may still be using to provide gas retail services. For example, we have not considered whether or not a gas retailer may be able to utilise a long-term 'legacy' gas supply contract to provide retail gas services in a year. The reason being is that even if the actual cost that the gas retailer pays for gas under that legacy contract differs to existing market rates, the *opportunity cost* to that gas retailer of deciding to utilise that legacy gas to provide gas services to end customers over the next year *is the* market rate for gas at the time set its retail tariff. This is because if that retailer didn't utilise that gas to supply end customers over the next year, they could have sold that gas into the market and generated revenue (or losses[5]) equivalent to those existing market rates. This also aligns with the cost that a new entrant would have to incur to purchase gas to provide retail gas services in that year and this is the chosen benchmark;
- We have, however, assumed that an efficient gas retailer would contract for gas in advance of the years that are being modelled. This reflects our assumption that an efficient gas retailer would, given the risks, be unlikely to "take spot" for their entire gas load[6] over the modelled years. Given the dearth of wholesale price information available, we have had to be somewhat flexible in how far in advance we assume gas purchases are made, however, we have assumed that contracting takes place anywhere between 1 month and 12 months *in advance* of the modelled year but at the price a new entrant would pay for the gas in the year it is intended to be used; and

5 If legacy gas contracts are higher cost than what a new entrant could buy in the market, then theory says this gas would be sold at a loss to either the market or direct to customers – this is a critical issue as gas prices recede in markets and has given rise to shorter terms wholesale gas contracts in the east coast market.

6 Although there is growing evidence that larger customers are becoming more willing to purchase their gas directly from the spot market via a Retailer who can arrange this type of purchase.

- We have not presupposed what products an efficient retailer provides to the market, in particular, we have not explicitly assumed that an efficient retailer is either a "gas only" retailer or a "combined gas and electricity" retailer. Nor have we assumed a particular size in relation to an efficient gas retailer – for example, we have not presupposed that it must be one of the big three retailers (Origin, Energy Australia or AGL), or that it must be a smaller retailer. Instead, we have imputed an efficient retail gross margin (i.e., the sum of retail operating costs and net margin) from the market offers that are available to customers, on the assumption that a market that is workably competitive will reveal the underlying efficient costs of providing a service.

These issues are discussed in more detail in later sections of the report.

5.2. Components of the gas value chain costed

There are a number of discrete parts of the gas value chain that have different underlying cost structures, which contribute to the overall cost of supplying gas services to retail customers. These are:

- Wholesale costs – this covers the cost of purchasing the gas that is supplied to end customers
- Transmission costs – this covers the cost of transporting gas from production fields to demand nodes, or demand centres.
- Distribution costs – this covers the cost of distributing gas through the smaller distribution pipelines that in turn connect to a customer's premise
- Retail operating cost – this covers the cost of a retailer would incur in performing the retail functions required to serve its customer base. These include customer service (e.g., operating call centres), billing and collecting revenue, finance, IT systems, regulatory compliance costs, energy trading costs and any related risk premiums, and an appropriate allocation of corporate overheads. This also includes costs associated with customer acquisition and retention (CARC). These costs include marketing and advertising campaigns, reward and loyalty programs.
- Retail margin – this compensates Retailers for the non-diversifiable risks associated with supplying gas to small customers on regulated tariffs. These non-diversifiable risks stem from factors such as variations in demand and economic conditions.

In this report, we estimate the costs that an efficient retailer would incur across each of these parts of the gas value chain, in order to enable it to sell gas to different types of customers in a number of different regions in NSW. These costs have been calculated for both the 2017/18 financial year and 2018/19 financial year, in order to determine the contribution that each part of the value chain has made to changes in retail prices over that period.

These costs are discussed in more detail in latter sections of this report.

5.3. Retail offers

To inform our analysis, IPART has provided us with retail offers (both market and standard) for residential and small business customers for the 2017-18 and 2018-2019 financial years. IPART has sourced this information from the Energy Made Easy database for NSW distribution zones.

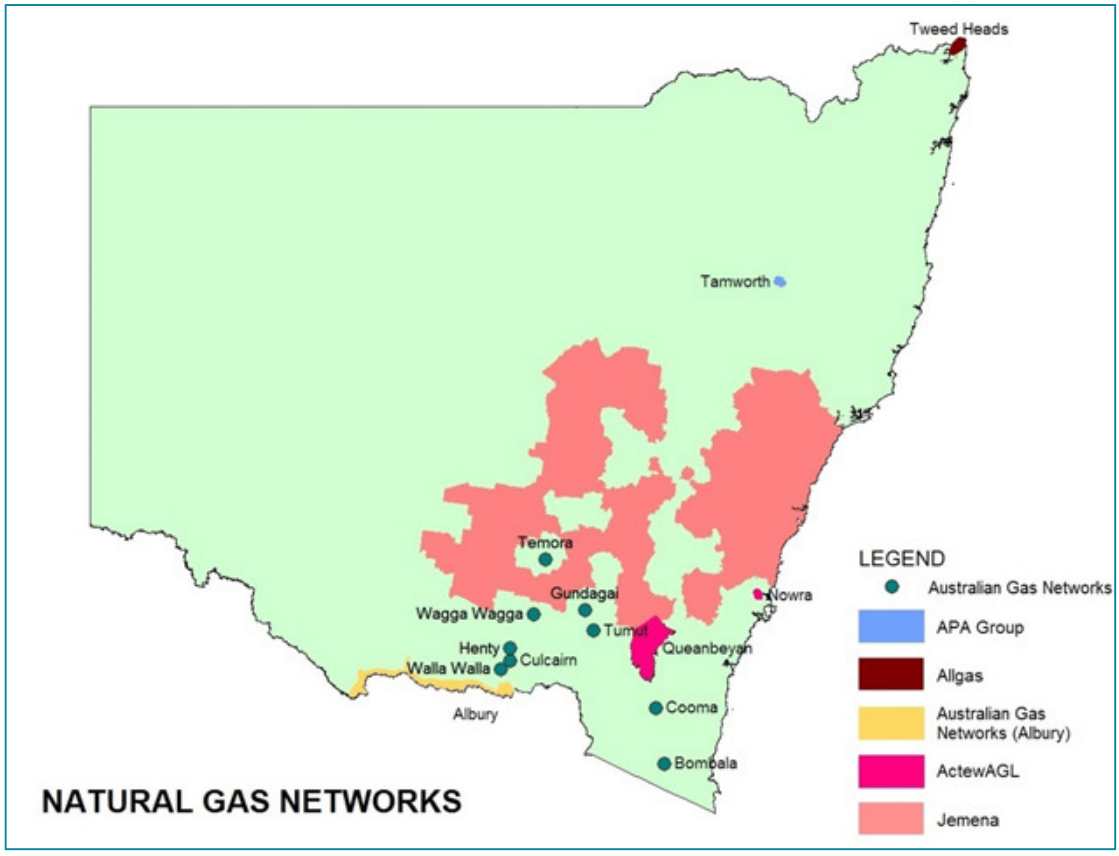
5.4. Distribution zones examined

There are approximately nine distribution zones with different retail and distribution tariffs in NSW (not including Tweed Heads). For this study, the distribution zones were limited to the distribution zones for which IPART has previously undertaken reviews of retail prices and charges[7].

These distribution zones are:

- Jemena (Sydney)
- Evoenergy (formerly ActewAGL)
  - Queanbeyan
- Australian Gas Networks
  - Albury

Figure 1: Distribution Zones in NSW.



5.5. Connection consumption

The following table summarises the consumption levels that have been adopted for the purposes of developing this report, along with brief commentary regarding where these assumptions have been sourced from.

7 IPART, *Review of regulated retail prices and charges for gas from 1 July 2016*, June 2016.

Table 8: Consumption assumptions

Distribution region	Customer type	Annual Consumption	Summer/Winter split[8]	Source
Jemena - Sydney	Residential	20 GJ	Flat	IPART Data and OGW data
Jemena - Sydney	Small Business	184 GJ	Flat	IPART Data and OGW data
AGN - Albury	Residential	42 GJ	30%/70%	ENA & Core Energy
AGN - Albury	Small Business	209 GJ	Flat	IPART Data and OGW data
Evoenergy - Queanbeyan	Residential	39 GJ	20%/80%	OGW/Evoenergy data
Evoenergy - Queanbeyan	Small Business	246 GJ	Flat	IPART Data

To be clear, we have only modelled one annual consumption level for each customer type in each region. In relying on only a single average usage, which is done by necessity due to unavailability of information about the distribution of usage levels around the mean consumption in a region, the results are an average outcome that is unweighted for any usage distribution. However, the report analysis does weight for seasonal consumption where this is seen as relevant and indicated in Table 8: summer/winter split.

8 Winter period has been assumed to be from 1 May to 31 Oct.

6. Cost components

6.1. Wholesale costs

Most gas retailers maintain a portfolio of wholesale gas supply contracts that usually includes legacy contracts that provide gas at a relatively low price as prices climb or can also be much higher depending on timing of their gas portfolio contracting. In the absence of information on each retailer's gas portfolio, the wholesale cost is assumed in this analysis to be the wholesale gas contract price for the year under review as outlined. This cost is for new gas contracts struck for the year in question and is in our view an efficient price as it is where the Producers and Retailer compete – it reflects the price a Producer will sell into the market effectively at that time – against the supply from another Producer and/or Retailer. It is a true market price and is reflective of the supply demand balance which is so critical in gas – it does not represent the cost of production for example if supply is severely constrained but a market clearing price giving signals for lessening of demand and increasing of supply. When the supply is exceeded we see a rapid return to prices more reflective of the cost of supply to the local hub. These trends are well documented in the Gas Price Trends Review and by the ACCC work, and the WA gas price "bubble" is almost text book evidence of this effect and how the market fits with economic theory (albeit it slow in its response times due to poor price discovery – the market is responsive but not very efficient due to this lack of price discovery).

As a result, it is likely the actual average wholesale gas component for some retailers could well be less or more than what is estimated in this report in any given year – their skill is to be able to manage their gas procurement to remain competitive and this is actually a bigger risk for larger retailers when we see the price volatility we have in recent years – hence them and the rest of the market taking shorter terms on large levels of procurement. This adds to the methodology in our view as Producers are also loath to sell long (as they used to) in case they too miss out on beneficial price events (or are simply out of the market as many have been for years with legacy supply agreements). The methodology we have adopted is becoming more reflective of the actual market and this is the reason it was chosen.

These wholesale gas costs have also been compared with analysis undertaken by some of the jurisdictional regulators when determining residential gas prices (i.e., when and where gas prices are/were regulated). Regulators typically undertook this analysis using wholesale gas price forecasts provided by third-party forecasters and then worked through a retailer cost and margin exercise to arrive at final determined prices or to check the prices and disaggregation of costs provided by retailers submitting new prices for determination. This type of analysis had the benefit of being open to public scrutiny.

OGW also engaged Energy Management Services (EMS) to provide an update to the small industrials contract database for NSW that was used for the state-aggregated cost assumptions for wholesale costs in the Gas Trends Price Review 2017 report. This confidential database gathered by direct survey of customers provides a detailed price breakdown of actual contracted wholesale gas prices, contracted capacity, MDQs and some transmission costs. Being confidential, the database itself will not be made public and even what OGW receives is not labelled with actual customers - although these are sited to ensure the veracity of the information. However, scatter plots of contract price in $/GJ will be made available.

The advantage of this approach is the data is actual wholesale contract gas pricing and usually includes forward pricing out to a year or two and evidence of load factor variances – for example it was reported in the Gas Price Review Reports of 2015 and 2017 that many smaller industrial customers were not being charged for higher load factors, where as we know this is the case for small (residential, business) customers.

The wholesale price component was also be compared to other price data such as the Sydney STTM, Victorian DWGM, and Victorian Gas Futures, and the recent information provided by the ACCC Gas Enquiry 2017-2020 Interim Reports.

6.2. Transmission and transport costs

Transmission pricing for each distribution zone was adapted from publicly available transmission tariffs to estimate the transmission costs. The load factor assumption for gas transport is 1.2 and is reflective of large industrial loads. These loads tend to be fairly constant with small or limited peaks. The customer load factor for smaller retail load tends to have larger peaks and transmission costs need to take account of the customer load factor difference.

Based on our previous studies, the customer load factor[9] for retail supply has been assumed 2.5 which is greater than typical wholesale and transmission contract requirements of 1.1-1.2.

Transmission costs on major pipelines are also identified and highlighted through the ACCC Gas Enquiry 2017-2020 and are continually updated. This is particularly important as gas flows on the East Coast have changed dramatically over the last 12 months. There is now concerns that there is insufficient gas in the south to meet domestic demand in the south, so gas from Queensland needs to flow south, via Moomba, to meet that demand and this has been the subject of Commonwealth market interventions with LNG exporters.

As gas to NSW comes from both Victoria, via the EGP, and from South Australia (and Queensland), via the MSP, the transmission cost is calculated using a weighted flow basis from data provided by the Gas Bulletin Board.

6.2.1. Deliverability

As wholesale contracts are offered on a supply load factor of 1.05 to1.2, the retailer also needs to ensure that their Gas Supply Agreements (GSAs) are capable of covering the peaks and diversity of their load factor. They can do this using a number of means such as additional GSAs, or specific gas storage contracts, etc.

The assumption of the deliverability cost is approximately ($2018) 7 cents per GJ for each 0.1 difference between the customer load factor (assumed to be 2.5 for residential) and the supply load factor (assumed to be 1.2). This calculation has been well vetted in the Gas Price Review Reports and has a basis in costs for gas storage, use of line-pack and presumably soon to be implemented use of LNG for peaking (which is the case currently in NSW in terms of the Newcastle facility).

Deliverability estimate = (SLF-CLF)/0.1 x 7 cents/GJ ($2018)

The total transmission/storage cost estimate for each year is the sum of the pipeline transmission cost estimate and the delivery cost estimate.

6.3. Distribution costs

In NSW the distribution zones are both regulated and unregulated. The four regulated distribution networks (regulated by the AER) are:

- AGN Albury distribution
- Jemena Sydney and surrounds distribution

9 The customer load factor is the maximum daily quantity or peak demand divided by the average daily demand.

- AGN Wagga Wagga distribution
- APA Group Central Ranges Pipeline distribution.

The remaining distribution networks that are not regulated all belong to AGN. However, AGN publicly makes all the tariffs available through their website.

Distribution tariffs have a fixed and variable charge, which is usually reflected in retailer tariffs, which have the same structure and pricing tranches.

The distribution component was be calculated using the same process as the retailer tariffs.

6.4. Retail Costs

There is no publicly available "revealed" information relating to the retail operating costs and retail margins of an efficient retailer. At a general level, there are three broad approaches that we could have adopted:

- Rely on previously published regulatory decisions that have relied on estimates of retail operating costs and retail margins to inform regulated retail prices – this is equivalent to IPART's previous "benchmarking" approach;
- Rely on the costs and imputed margins reported by a small number of large retailers (e.g., AGL, Origin) in their annual reports; or
- Impute the retail gross margin (i.e., the sum of retail operating costs and net margin) from the offers that are available in the market.

We have adopted the latter option, with the other approaches being used to cross-check the results and adjust where necessary.

Figure 2: Determination of retail cost component.

In adopting this approach, our assumption is that if a market is workably competitive, the market offers (or a subset of offers) will reveal the underlying efficient costs of providing a service. We note that most gas retailers publish more than one market offer for each customer class, each of which is likely to have different terms and conditions. This has created significant price dispersion in the gas (and electricity) retail markets.

Despite there being price dispersion, if the market if workably competitive, a sub-set of those offers should reflect the efficient costs of providing gas services – and if this is not to be the case, then it would appear to raise significant questions regarding the efficiency of the market more generally.

Given this, our approach was to:

- Analyse all of the market offers available during the 2017/18 and 2018/19 period in order to calculate an all-in retail bill for each of the customer types nominated by IPART (in conjunction with the load profile we assume) for each of the two years;
- Determine the all-in retail costs associated with each of those market offers, by deducting off the costs of all of the other parts of the gas value chain – based on approaches outlined in the earlier sections of this report;

- For the purposes of the analysis reported in Appendix A, we removed the estimated value of the retail margin, reflecting IPARTs most recent regulatory decision (6.3%-7.3%)[10], to estimate the underlying retail operating costs for each of those offers;
- From this, determine the lowest 30%-40%[11] of retail operating costs implied by market offers within each distribution area, applicable to each customer type;
- Analyse and remove any outliers with regards to the lowest market offers, where this would materially change the result. In saying this, outliers (i.e., abnormally large or small retail offers) may come about for a number of reasons, not the least as a result of the fact that some offers may be "loss leaders" or better related to customers with different usage levels as compared to what is being modelled. Where we have removed a retailer's lowest market offer, we have recalculated them using the next best market offer in the distribution area; and
- Comparing and contrasting this information with other information/estimates of retail operating costs to assess whether the revealed retail operating costs that have been inferred from the available market offers are likely to be efficient. This comparison included, amongst other things:
  - The retail operating costs that IPART assumed in its 2016 review of regulated retail gas prices, with these being $97-$118 ($2015-16) and customer acquisition and retention costs of $16/customer. When converted (and rounded) to $2018[12], these are $102 - $124, and $17 respectively; and
  - The retail operating costs publicly reported by AGL and Origin.
- Qualitatively assessing whether there are any other market or environmental factors that may lead to a significant divergence in the efficient retail operating costs in an area, as compared to IPART's previous benchmarks.

10 See for example IPART, *Review of regulated retail prices and charges for gas from 1 July 2016*, Final Report, June 2016, page 41

11 The range is used, instead of a specific point estimate, to overcome situations where the number of offers analysed does not allow a specific point estimate to be directly derived.

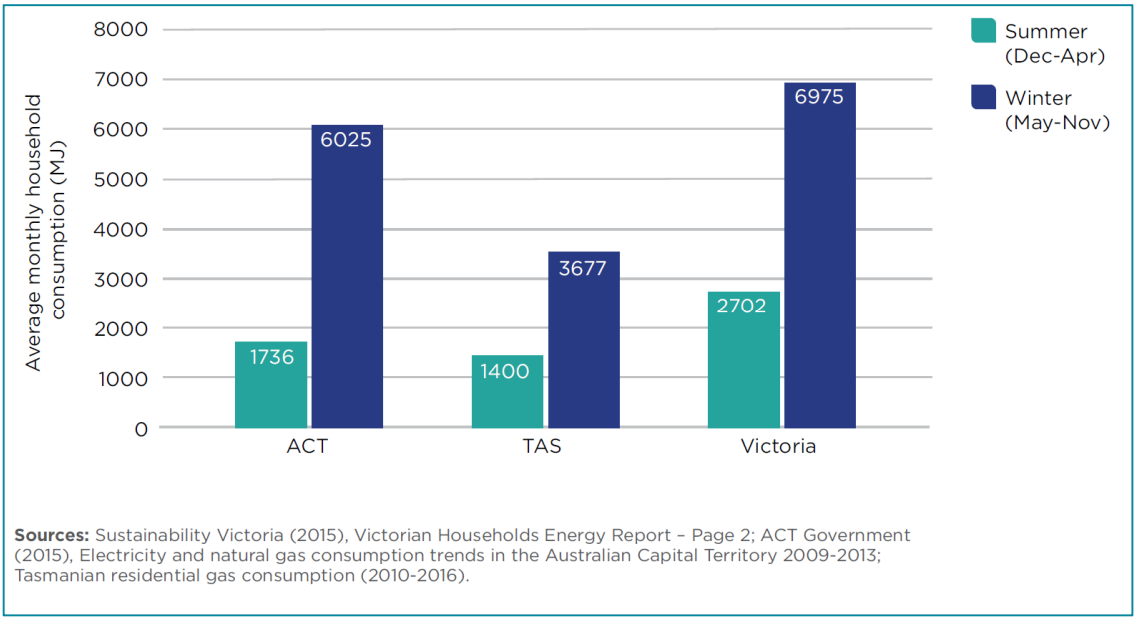
12 We have used June 2018/June 2015 Sydney All groups CPI published by the ABS to make this adjustment.

7. Discussion and results

7.1. Residential Consumption

The shaping or seasonality of residential consumption for the different distribution zones is particularly important for the colder climate, higher consumption regions that predominantly use gas for heating. The split of consumption between summer and winter has been approximated based on information provided by Energy Networks Australia shown in Figure 3. The Queanbeyan consumption has been assumed to be the same as the ACT and the Albury and Murray Valley distribution zones have been assumed to be the same as Victoria.

Figure 3 Comparison of summer and winter residential consumption[13].

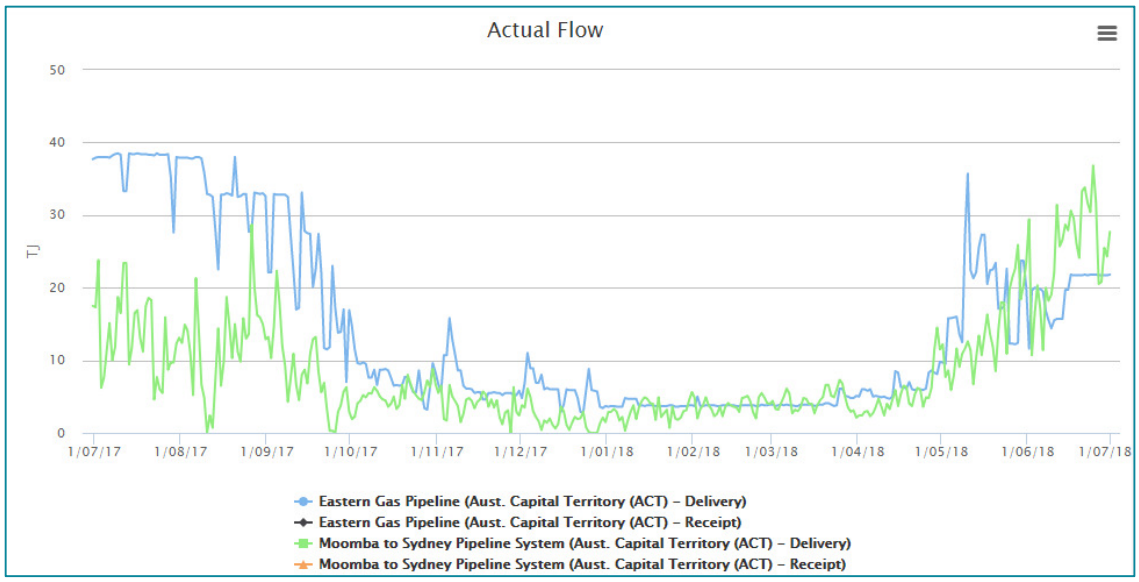


Sources: Sustainability Victoria (2015), Victorian Households Energy Report – Page 2; ACT Government (2015), Electricity and natural gas consumption trends in the Australian Capital Territory 2009-2013; Tasmanian residential gas consumption (2010-2016).

As the ACT is a demand zone on the Gas Bulletin Board and predominantly residential and commercial gas consumption, daily flow data supplying the ACT is available from the MSP and EGP. Examination of the flow data for 2017-2018 confirm the approximate seasonal consumption and the trends are shown in Figure 4.

13 Reliable and clean gas for Australian homes, Oct 2017, Energy Networks Australia.

Figure 4 Daily pipeline flow to the ACT for 2017-2018[14].



7.2. Wholesale costs

A single wholesale cost has been assumed for each reference year in accordance with the methodology to represent the new entrant wholesale costs. The wholesale costs have been derived and checked from three sources:

- Contract data from EMS
- Gas price data from the Sydney STTM and Victorian DWGM
- ACCC Gas Inquiry Interim Report

Table 9 Wholesale gas component assumptions

Source		2017-18 ($/GJ)	2018-19 ($/GJ)	Percent Change (nom)
EMS Confidential Gas Contracts	Average	8.45	10.12	
	Range	6.27-11.45	9.64-11.20	
STTM (Syd)	Average	8.50	9.12[1]	
	Range	7.12-9.30	9.35-10.30	
ACCC Gas Inquiry	Average	8.69	9.40	
	Range	7.12-9.30	9.35-10.30	
Average of EMS and STTM		8.48	9.62	13.4%

Notes 1. Data is from the Victorian Gas Futures based on access in Mar 2018 for STTM data for 2018-19.

14 AEMO Natural Gas Bulletin Board Actual Flow (INT 924, INT 925) report.

Table 9 provides on overview of the wholesale gas cost components and their various inputs. OGW has assessed three sources of data and view that the correlation is more than acceptable. The EMS Contract pricing has had outlier pricing and smaller contracts removed to form a short list of valid samples. Evidence in the contract pricing, particularly for 2017, show price exploration for wholesale costs that caused high volatility in contract pricing which meant that the cost of gas was predominately determined by the timing of when contracts were struck .

Figure 5 ACCC Gas commodity price offers for 2019 supply in the East Coast Gas Market

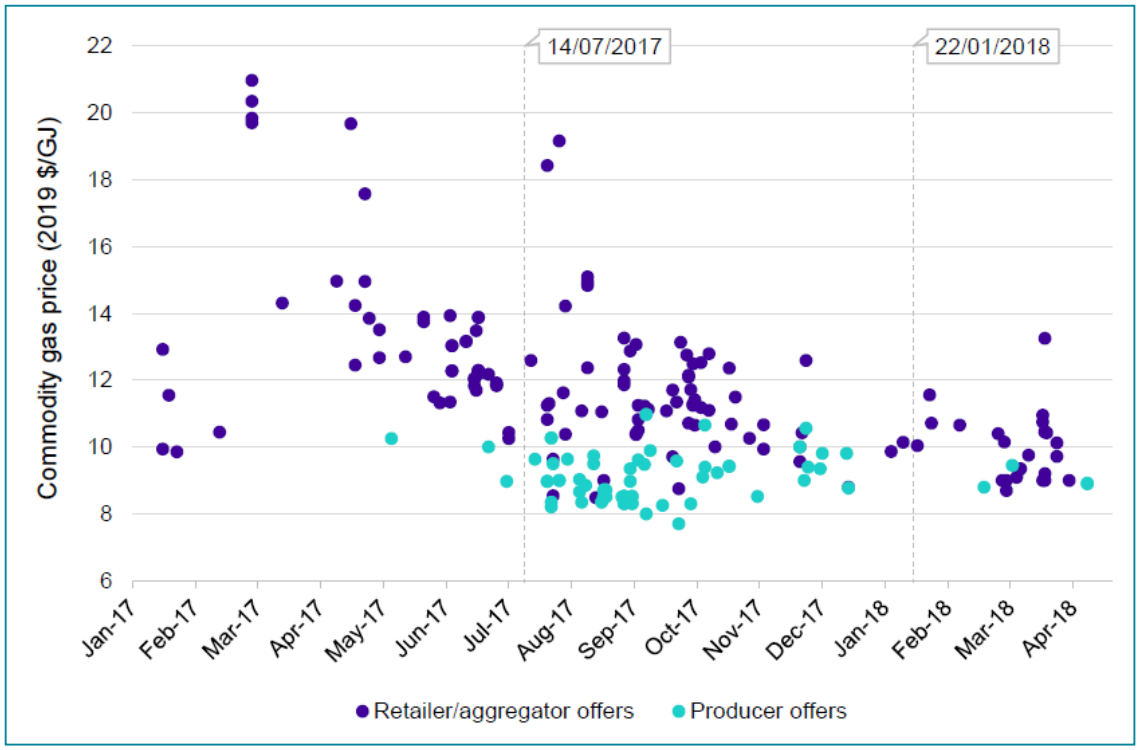
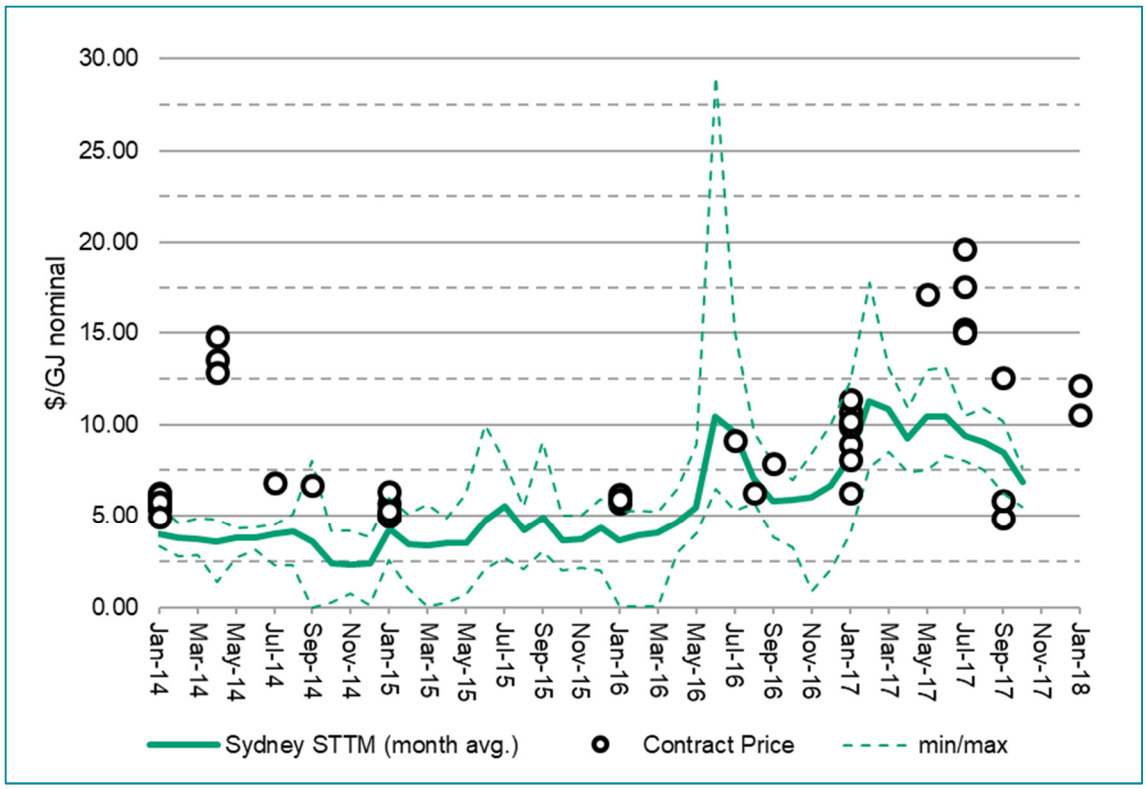


Figure 6: Gas contract price exploration during the 2017 period.[15]



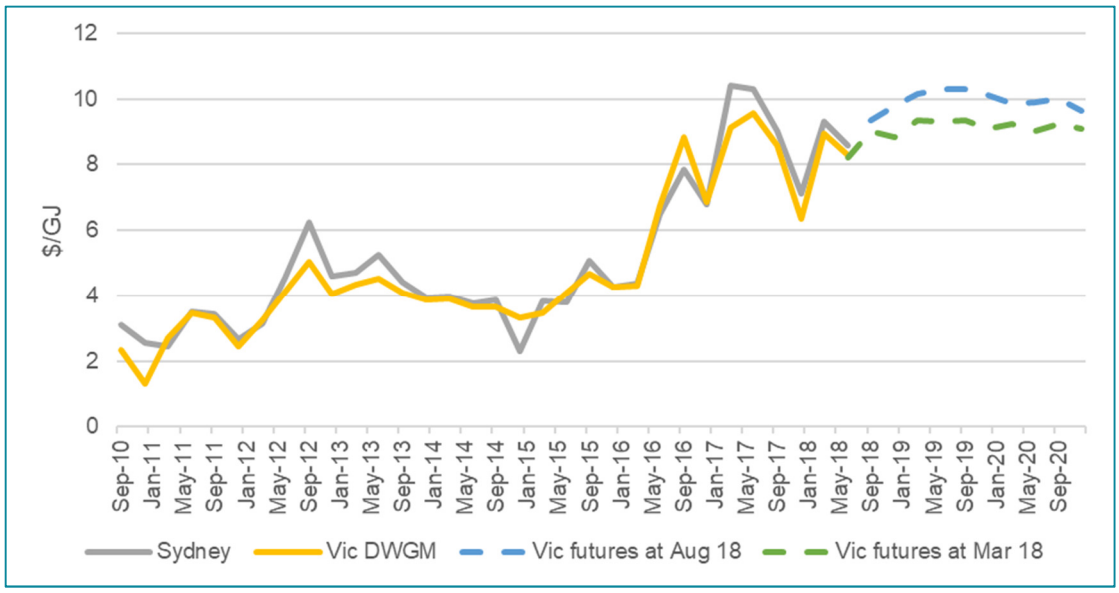
Pricing at the Sydney STTM is becoming more representative of wholesale gas prices incurred by customers, which is providing improved transparency as to the cost of gas. This is supported with the emergence of retail offers now being offered for larger aggregated retail loads that are entirely sourced and exposed to the STTM pricing. These retail offers are competitive with other more traditional offers available in the market.

The Victorian DWGM pricing closely tracks[16] the Sydney STTM as the delivered cost. The emergence of derivative products such as the Victorian gas futures price gives a view of forward gas prices available at the time retail prices were being developed.

15 Sourced from the Gas Trends Price Review 2017, OGW for the Department of Energy and Environment.

16 Transmission costs from Victoria to Sydney are similar to the transmission costs from Moomba, and 70% of the gas delivered to Sydney is from the Victorian reserves via the EGP.

Figure 7 Quarterly gas prices for the STTM, DWGM and the Vic Gas Futures.



The ACCC has noted[17] that:

> *"conditions in the east coast gas market have eased considerably since the extremes reported in 2017"*

and wholesale gas prices have reduced. OGW observed the same trends in the Gas Price Trends Review 2017 report where the lowest gas prices shifted from Victoria to Queensland over the period of 2015 to 2017 as East Coast pricing became more linked to international LNG prices and more gas was made available for the Southern states.

While the trend over the years has been downward from the peak prices, and price exploration, that occurred in early 2017 - due to action by governments - the market still remains tight due to a tight supply-demand balance on the East Coast. As a result, we are seeing wholesale gas pricing increasing by 13.4% over the 2017-18 to 2018-19 years based on the data and assumptions considered for this report. This is also supported by the latest ACCC report[18] which indicates an increase from an average of $8.68/GJ to $9.40/GJ for gas contracts struck for delivery in 2019 timeframe. The Victorian gas futures support upward pressure on wholesale gas prices as shown in Figure 7 with prices increasing by approximately $1/GJ over a period of 6 months.

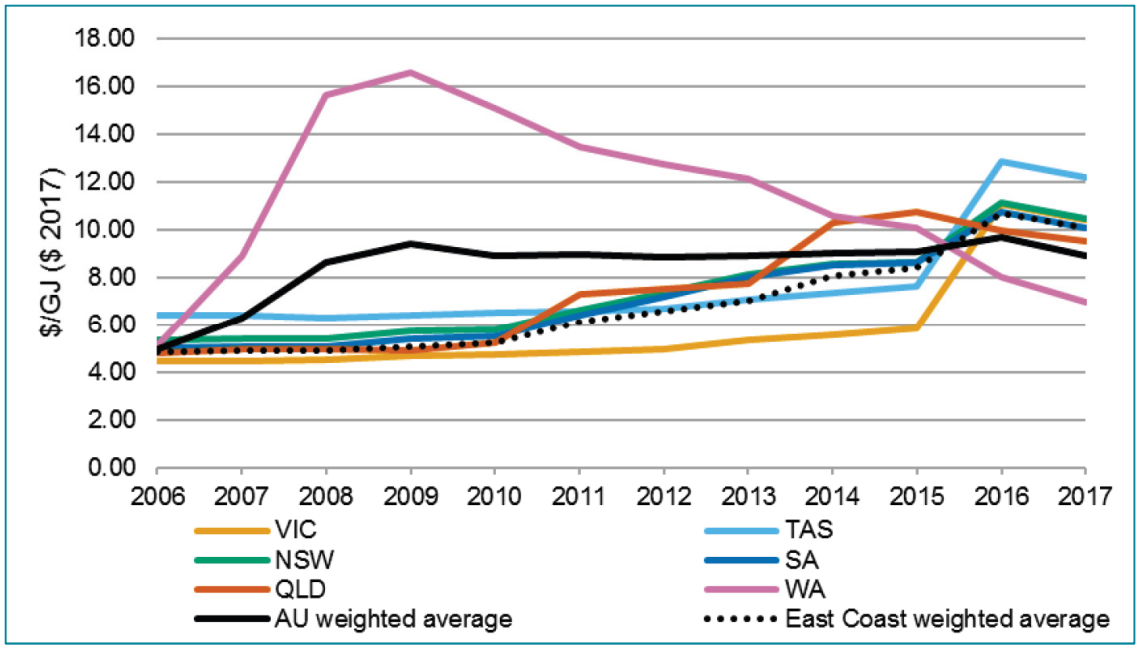
To reduce wholesale pricing significantly, new sources of supply would need to enter the market at the right price. Evidence of this has been shown in WA with the deflation of the "pricing bubble" that occurred in 2009 (Refer Figure 8) with new wholesale gas supply and sellers entering the market. This, along with more efficient transport to demand centres, would help place downward pressure on wholesale gas pricing. This is again borne out by statements from the ACCC review work, with the ACCC Chair Rod Sims saying:

17 "East coast gas market conditions have eased, but more gas required to lower prices.", Media Release, 2/08/2018.

18 ACCC, Gas inquiry 2017-2020 Interim report, July 2018.

"To improve market conditions, the east coast gas market requires a greater level and diversity of supply, a more efficient transportation network, and greater transparency. To lower prices in the southern states, lower-cost gas must be produced in the southern states"[19]

Figure 8 Delivered gas price ($2017) trends for large industrial customers on new gas supply agreements[20].



7.3. Transmission costs

The transmission costs have been based on published pipeline tariffs or calculations publicly available. The load factor assumed for small customer supply is 2.5 or 40% utilisation to determine the MDQ. Previous analysis by NERA yielded a similar range of load factors (35%-40%) for small customers in the different regions. OGW has used this load factor for all distribution zones in scope.

NSW has little producing indigenous gas supply and all gas supplied to the region has been assumed to come from Longford (Gippsland basin) in Victoria or from Moomba (Cooper Basin) in South Australia. In recent years, a portion of gas supply has now been flowing from Queensland to the Sydney market. The flows from the different pipelines have been sourced from the natural Gas Bulletin Board to determine the proportions of the pipelines utilised and then to calculate the transmission cost proportioned on these flows.

19 "East coast gas market conditions have eased, but more gas required to lower prices.", Media Release, 2/08/2018.

20 Oakley Greenwood, Gas Price Trends Review 2017.

Examination of pipeline flows for the 2017-18 period from the GBB show the following gas flow approximate proportions:

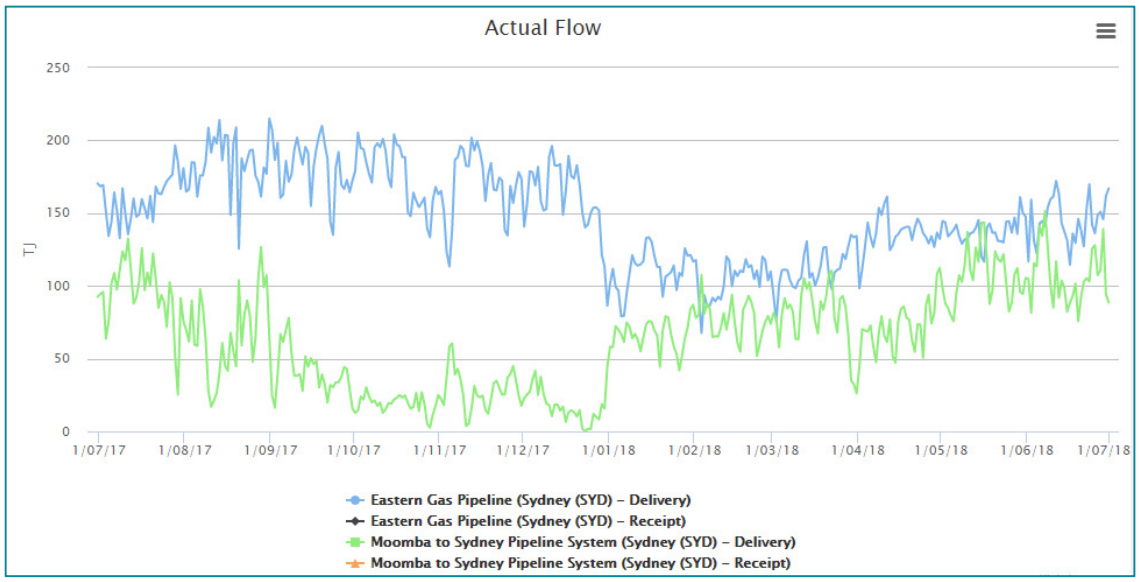
- Jemena and Evoenergy zones (Eastern NSW)
  - 30% Moomba to Sydney Pipeline (MSP)
  - 70% Eastern Gas Pipeline (EGP)
- AGN Victorian border zones (South Western NSW)
  - 20% Moomba to Sydney Pipeline (MSP)
  - 80% Victorian Transmission System (VTS)

These same proportions have been used for the 2018-19 analysis.

Figure 9 The Natural Gas Bulletin Board identifying the major transmission pipeline deliveries into NSW. P represents a production zone and D represents a demand zone.

It has been assumed that the transmission costs for Evoenergy distribution zones in Queanbeyan are similar to the Jemena distribution zone (Sydney).

Figure 10 Pipeline daily flows the Sydney demand zone



The storage costs have been based on previous work by OGW[21] and Core Energy[22]. These have been assumed to be $0.07/GJ in 2017-18 for each 0.1 of the load factor away from a standard load factor of 1.2 (80% take or pay). E.g. for a load factor of 2.5 the storage costs are (2.5-1.2) x $0.07/GJ.

Table 10 Transmission cost breakdown and assumptions

Pipeline	Description	2017-2018 ($/GJ nom)	2018-2019 ($/GJ nom)	Percent Change (nom)
MSP	MDQ charge	0.98	1.02	
	throughput charge	0.05	0.05	
	delivered gas charge (LF 2.5)	2.5	2.6	
EGP	Zone 1 to Zone 3 charge	1.26	1.28	
	delivered gas charge (LF 2.5)	3.15	3.20	
Victorian DTS	Charge calculated using APA spreadsheet from Longford	1.06	1.07	
Storage	cost for LF of 2.5	0.91	0.93	
	Transmission cost (delivery Jemena, Evoenergy zones)	**3.87**	**3.95**	**2.3%**

21 Gas Price Trends Review 2017 for the Dept of Environment and Energy.

22 Gas Storage Facilities - Eastern and South Eastern Australia, Feb 2015.

Pipeline	Description	2017-2018 ($/GJ nom)	2018-2019 ($/GJ nom)	Percent Change (nom)
	Transmission cost (delivery AGN zones Vic border)	**2.25**	**2.31**	**2.4%**

7.4. Distribution costs

A majority of distribution zones are regulated by the Australian Energy Regulator. These zones are:

- Jemena
- AGN Albury
- Evoenergy Queanbeyan networks (as part of the ACT).

Table 11 Distribution costs component summary for each distribution zone

Distribution region	Customer type	2017-2018 ($ nom)	2018-2019 ($ nom)	Percent Change (nom)
Jemena - Sydney Coastal	Residential	311.66	303.44	-2.6%
Jemena - Sydney Country	Residential	304.88	297.06	-2.6%
Jemena - Sydney Coastal	Small Business	1498.37	1447.63	-3.4%
Jemena - Sydney Country	Small Business	1359.46	1313.75	-3.4%
AGN - Albury	Residential	285.96	271.84	-4.9%
	Small Business	765.59	727.80	-4.9%
Evoenergy - Queanbeyan	Residential	369.06	386.70	4.8%
	Small Business	1627.83	1696.80	4.2%

Jemena sought a merits review of several aspects of the 2015-2020 Access Arrangement approved by the AER with the matter being considered by the Federal Court. A decision on the issue has been handed down to the AER; however, the AER has yet to remake its final decision. In the absence of an applicable mechanism to determine the annual variation of reference tariffs, the reference tariffs have been set by enforceable undertaking for the 2017-18 and 2018-19.

Jemena have stated that the reference tariffs on average will reduce by 5.4% in real terms[23]. The basis of this is not clear. While the calculated Jemena volume tariffs for this study do show a reduction in total costs, they are not of the same percentage as claimed by Jemena.

23 JGN, 2018-19 Tariff Variation Notice, May 2018

AGN has entered into a new Access Arrangement for the period of 2018-2022. The AER has stated[24] that the final decision will allow AGN to recover similar levels of revenue to the 2013-17 period. However, the approved rates of return have fallen from 7.07- 7.39% (nominal) to 5.67-5.94% with the reduced financing costs and are reflected in continuing reduced tariff costs between 2017-18 to the 2018-19.

Evoenergy's tariff changes between 2017-18 and 2018-19 financial years are in compliance with the annual tariff variation mechanism set out in ActewAGL Distribution's access arrangement for the ACT, Queanbeyan and Palerang gas distribution network 1 July 2016-30 June 2021 as approved by the AER.

7.5. Retail costs

The retail component is made up of both a retail margin (profit) and a retail operating cost, which in turn is comprised of a number of different functions and activities that are generally categorised as either:

- Cost to maintain services to existing customers; and
- Cost to acquire new customers and retain existing customers.

The retail component has declined on average between 2017/18 and 2018/19 across both residential and commercial customer classes, as well as across all regions analysed. Presumably, the magnitude of the retail component that a retailer reflected in its 2018/19 market offers would have reflected its expectations with regards to, amongst other things, the volume and unit price of labour (which are a significant contributor to retail operating costs), the depth and level of competition in the market (which will in turn affect their marketing and retention activities, as well as potentially their retail margins), and the risks associated with operating as a gas retailer in the NSW market (which will affect their required risk premiums, or margins, as well as their expected level of bad debts, etc).

Given that there is no publicly available forecast information relating to the retail operating costs and retail margins of each and every retailer operating in the NSW gas market, it is impossible to be definitive as to what assumptions each retailer would have made in relation to this cost component when developing their 2018/19 retail prices. However, information gleaned from two of the Big Three retailers' 2018 annual reports provides some insight into how their costs changed in the 2018 financial year, and what drove those cost changes.

For example, AGL[25] has indicated that its:

- Cost to serve (per customer account) increased from $70 in FY17 to $83 in FY18; and
- Cost to grow (per customer account) increased from $87 in FY17 to $101 in FY18.

Similarly, Origin[26] reported that its

- Costs to maintain (per customer) increased from $109 in FY17 to $124 in FY18; and
- Costs to acquire / retain (per customer) increased from $36 in FY17 to $46 in FY18.

24 AER, Final decisions: Victorian gas access arrangements for 2018-22 fact sheet, November 2017

25 AGL, 2018 Annual Report, page 31

26 Origin Energy, Directors' Report For the Year Ended 30 June 2018, Page 56

Origin[27] indicates that its cost increases were driven by, amongst other things:

- An increased cost to acquire and retain customers, reflecting costs associated with increased activity/competition and brand ($34 million) including "a 23% increase in call volumes and a 23% increase in win/retain activity"; and
- An increased cost to maintain ($48 million) due to "higher bad and doubtful debts expense ($13 million) reflecting rising energy prices and more customers on payment plans"; and
- An ongoing spend on data analytics to support its customer strategy ($10 million) and increased digital interactions.

These drivers are broadly mirrored by AGL[28], with it indicating that, amongst other things, its:

- Bad and doubtful debts were up 22.1% to $94 million, largely due to higher billed revenues driven by price increases;
- Campaigns and advertising costs were up 55.7% to $151 million, due to increased sales and retention costs driven by "intense market activity" as well as costs associated with entry into the Western Australian gas market and continued strategic investment in brand transformation activities; and
- Net other expenditure was up 37.0% $63 million due to higher payment channel costs driven by price increases, continued investment in customer affordability initiatives, lower late payment fees as more customers paid on time, and higher costs associated with the increased regulatory environment.

A number of the cost increases appear to be correlated with either:

- Higher energy prices, for example, bad and doubtful debts, costs associated with processing higher call volumes, customer affordability initiatives, and higher payment channel costs; or
- More retail competition, for example, campaigns and advertising.

Given the continued increase in energy prices (including retail gas prices in NSW), and the continued public focus on energy affordability issues, retailers are likely to have priced into their 2018/19 offers, higher costs related to costs that are correlated with higher gas prices. Similarly, competition, particularly in the Sydney gas market, appears to be significant, hence this is also likely to have contributed to expectations regarding the costs of campaigns and advertising.

Notwithstanding these cost increases, the overall retail component appears to have declined on average, hence it would appear that any forecast underlying cost increase - including those stemming from retail competition – have been offset by retailers accepting lower retail margins.

27 Ibid. page 32.

28 AGL, 2018 Annual Report, page 30

This aligns with some of the information reported publicly by AGL for the 2018 financial year, for example AGL stated[29] that its "consumer gas gross margin was $250 million, down 18.6%, as a result of increased gas commodity costs (transfer price) and margin compression driven by increased churn and customers product switching to lower priced products within a highly competitive market". It further stated that its "consumer gross margin per customer account was $192 per account, down 11.5%, as gross margin decreased on increased market activity".

The following sections 7.6 and 7.7 provide the cost breakdowns of the different components that contribute to the average residential and small business bill in the different distribution zones. While the average bill may give indication of the average consumer cost it may be misleading from a market efficiency perspective as the minimum offers and the bottom third of the bills indicate a competitive market in some of the distribution zones.

29 Whilst Origin Energy reports' significantly higher gross margins on average ($578 gross profit per customer in 2018, up from $478 in 2017) than AGL ($192, down from $217), both the difference in magnitude and direction appear to stem from Origin's position as a significant provider of retail gas services to business customers. In this sector, it appears to have been able to increase its price per GJ by 15.8% between 2017 and 2018, as compared to only 7% for consumer and SME customers. The increase in gas prices to business customers contributed to a $423m increase in revenue from these customers, to $1547m. This was on 171.4 PJ of gas sold. In comparison, AGL generated a gross margin from its gas business customers of only $46m, on only 32.3PJ.

7.6. Contribution of each component to changes in retail gas bills in each region - Residential

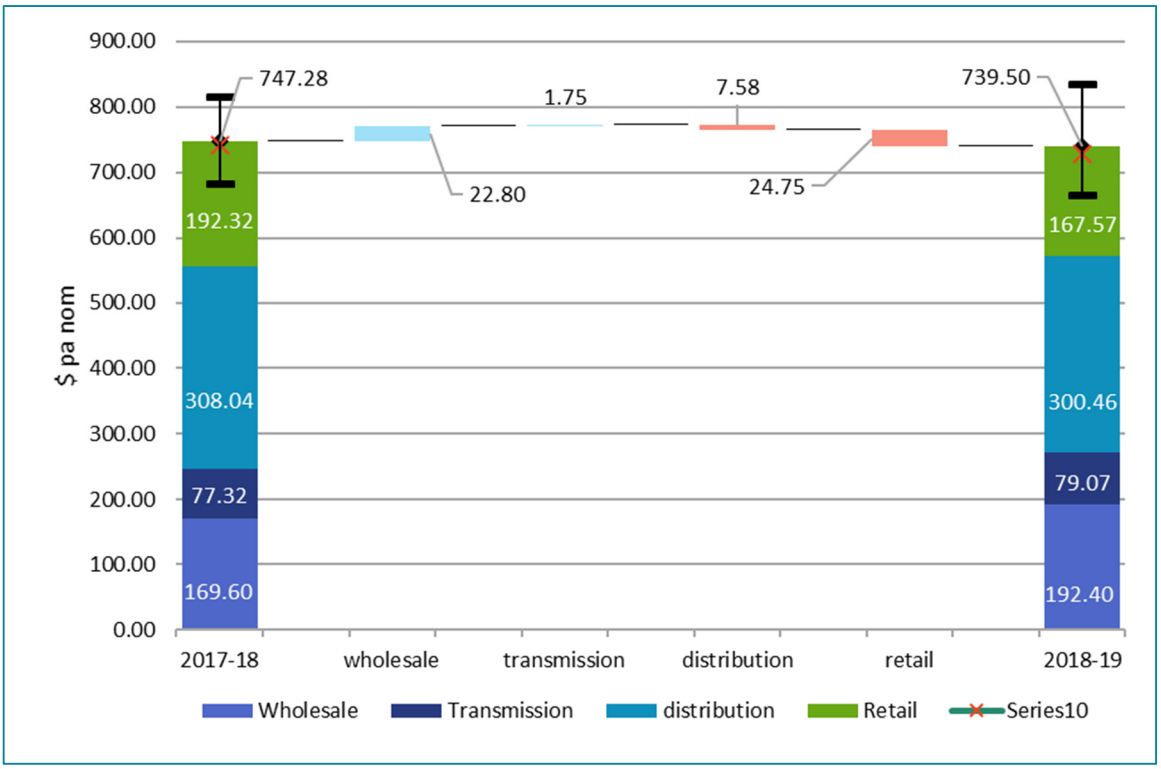
The indicative bill totals are based on an unweighted average of the market offers with discounts applied.

7.6.1. Sydney

Table 12 Changes for residential gas consumers in costs components and residential bills from 2017-18 to 2018-19 in nom dollars.

	2017-18	2018-19	Change	Change in cost component	Contribution to overall change
Wholesale	169.60	192.40	22.80	13.4%	3.1%
Transmission	77.32	79.07	1.75	2.3%	0.2%
Distribution	308.04	300.46	-7.58	-2.5%	-1.0%
Retail	192.32	167.57	-24.75	-12.9%	-3.3%
Indicative Bill	747.28	739.50	-7.78	-1.0%	-1.0%
Indicative Bill -bottom 1/3	742.45	728.92	-13.53	-1.8%	-1.8%
Retail - bottom 1/3	158.15	126.99	-31.16	-19.7%	-4.2%

Figure 11 Changes for residential gas consumers in cost components and bills for the Jemena distribution zone in nominal dollars.



The Sydney average residential retail component has shown a reduction of -12.9% and the bottom third of the market offers show a reduction of -19.7% over the period. Despite including an allowance for a retail margin, the retail component in Sydney on average ($167.57) and of the bottom third of offers ($126.99) is well below the retail operating costs that have previously been reported by two of the Big Three retailers (AGL and Origin), who have reported combined cost to serve and cost to grow of:

- AGL - $183 in FY2018[30]; and
- Origin - $170 in FY2018[31].

There are a significant number of retailers operating in the region – another important sign of a competitive market. Overall, it would appear to us that efficient retail gas prices are on average being revealed to the Sydney residential market with the bottom third cost component below the published customer costs indicated by Origin and AGL.

7.6.2. Albury

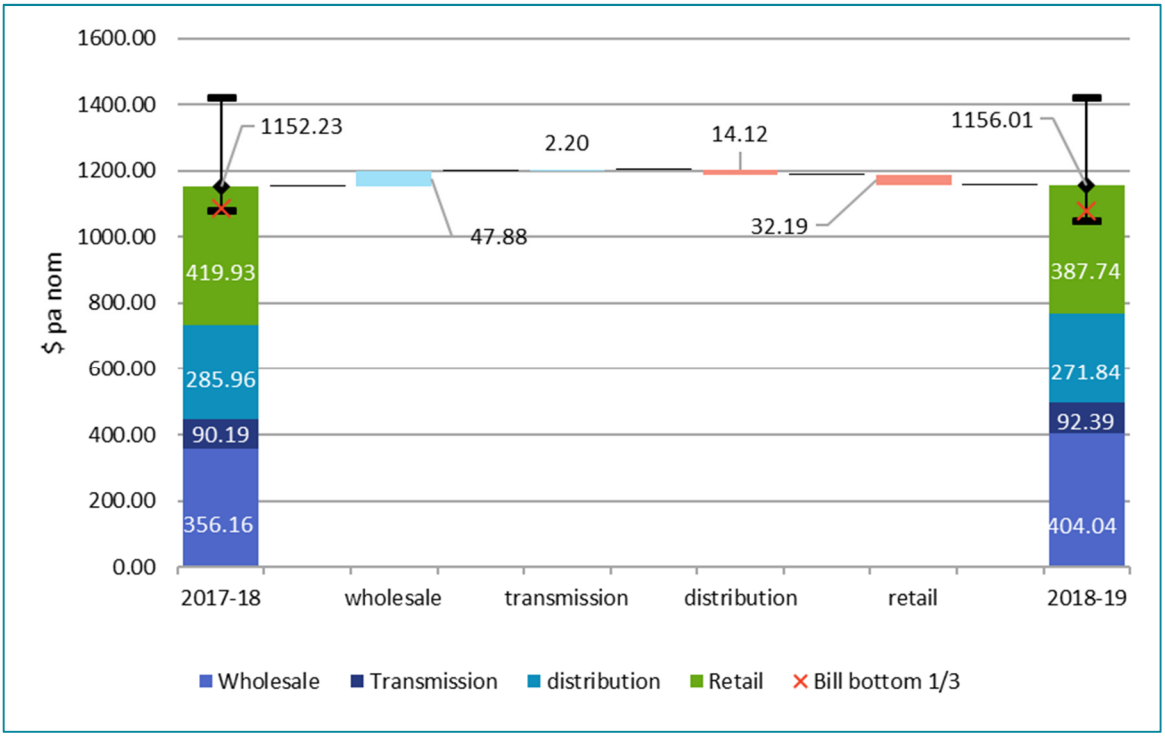
Table 13 Changes for residential gas consumers in costs components and residential bills from 2017-18 to 2018-19 in nom dollars.

	2017-18	2018-19	Change	Change in cost component	Contribution to overall change
Wholesale	356.16	404.04	47.88	13.4%	4.2%
Transmission	90.19	92.39	2.20	2.4%	0.2%
Distribution	285.96	271.84	-14.12	-4.9%	-1.2%
Retail	419.93	387.74	-32.19	-7.7%	-2.8%
Indicative Bill	1152.23	1156.01	3.77	0.3%	0.3%
Indicative Bill -bottom 1/3	1088.29	1079.99	-8.30	-0.8%	-0.8%
Retail - bottom 1/3	355.98	311.72	-44.26	-12.4%	-4.1%

30 AGL, 2018 Annual Report, page 31

31 Origin Energy, Directors' Report For the Year Ended 30 June 2018, Page 56

Figure 12 Changes for residential gas consumers in cost components and bills for the AGN-Albury distribution zone in nominal dollars.



Albury average residential retail component has shown a reduction of -7.7% and the bottom third of the market offers show a reduction of -12.4% over the period.

The difference in the magnitude of the retail components, as compared to those inferred from the Sydney offers (e.g., $387.74 on average in Albury, $167.57 on average in Sydney) may reflect:

- The fact that average household consumption is greater by a factor of two compared to the Sydney distribution zone,
- The level of scale achievable in the Albury market, which may impact the costs of entering the market, recruiting and retaining customers in that market, or
- The underlying level of competition in the market. While there are more market offers available in 2018/19 it is still only served by the big three retailers.

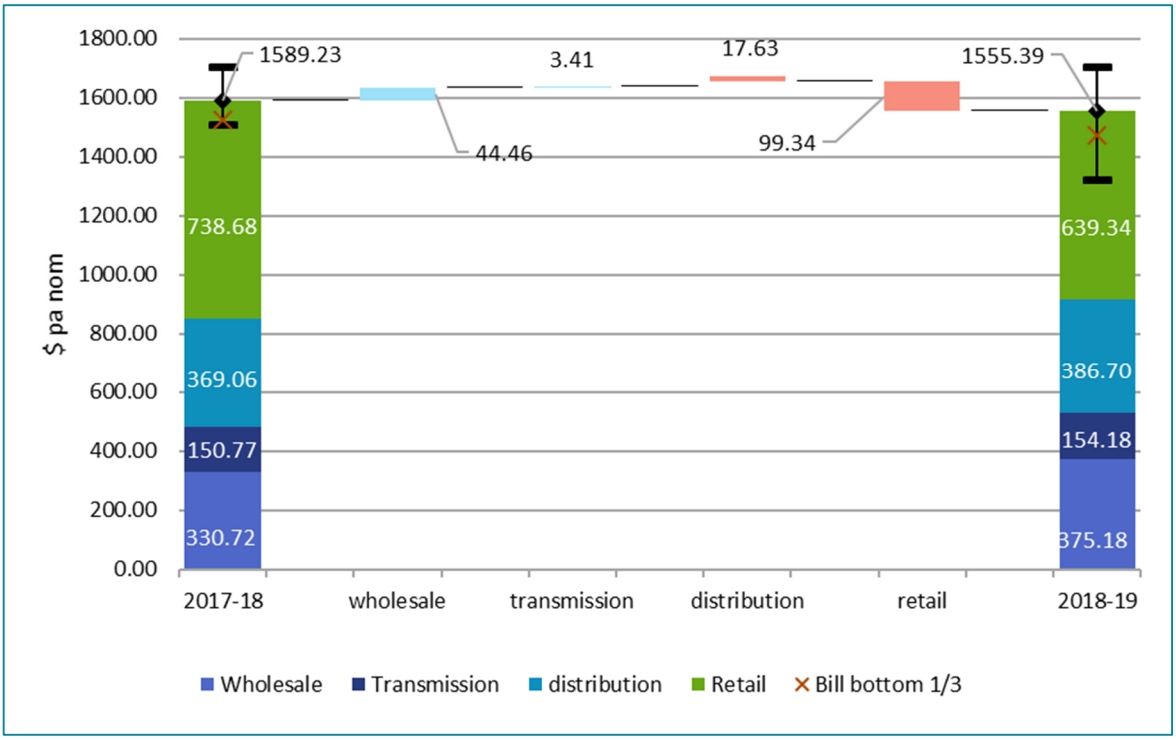
As competition in this market matures, one would expect that unless there are underlying barriers to entry – such as there being a constraint on transporting gas to the Albury region – more competitors may enter this market if the analysis is not reflective of the underlying efficient cost of providing retail services in this market.

7.6.3. Queanbeyan

Table 14 Changes for residential gas consumers in costs components and residential bills from 2017-18 to 2018-19 in nom dollars.

	2017-18	2018-19	Change	Change in cost component	Contribution to overall change
Wholesale	330.72	375.18	44.46	13.4%	2.8%
Transmission	150.77	154.18	3.41	2.3%	0.2%
Distribution	369.06	386.70	17.63	4.8%	1.1%
Retail	738.68	639.34	-99.34	-13.4%	-6.3%
Indicative Bill	1589.23	1555.39	-33.84	-2.1%	-2.1%
Indicative Bill -bottom 1/3	1526.56	1474.55	-52.01	-3.4%	-3.4%
Retail - bottom 1/3	676.01	558.50	-117.51	-17.4%	-7.7%

Figure 13 Changes for residential gas consumers in cost components and bills for the Evoenergy - ACT distribution zone in nominal dollars.



Queanbeyan average residential retail component has shown a reduction of -13.4% and the bottom third of the market offers show a reduction of -17.4% over the period. However, the average underlying retail component is significantly higher than in either Albury or Sydney.

When compared to Sydney, this difference may be due to the difference in consumption, however this does not explain the significant difference as compared to the Albury market. Therefore, it may in part reflect the level of scale achievable in this market, as compared to say the Sydney market. This in turn would impact upon the cost of recruitment and retention per customer. However, these factors are less of an issue when a comparison is made to the Albury market, hence it is difficult to see that this would explain the sizable difference in the retail component in Queanbeyan as compared to those other regions.

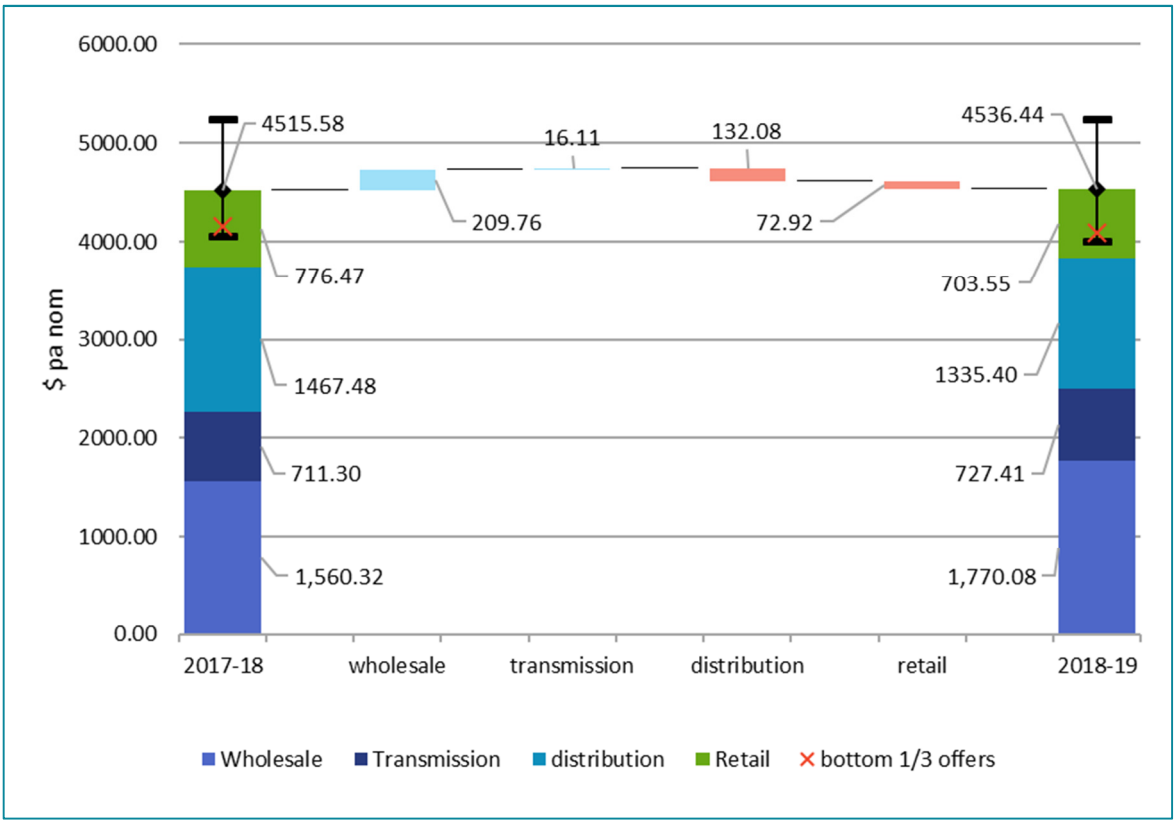
7.7. Contribution of each component to changes in retail gas bills in each region - Commercial

7.7.1. Sydney

Table 15 Changes for small business gas consumers in costs components and bills from 2017-18 to 2018-19 in nom dollars.

	2017-18	2018-19	Change	Change in cost component	Contribution to overall change
Wholesale	1560.32	1770.08	209.76	13.4%	4.6%
Transmission	711.30	727.41	16.11	2.3%	0.4%
Distribution	1467.48	1335.40	-132.08	-9.0%	-2.9%
Retail	776.47	703.55	-72.92	-9.4%	-1.6%
Indicative Bill	4515.58	4536.44	20.86	0.5%	0.5%
Indicative Bill -bottom 1/3	4159.42	4086.91	-72.50	-1.7%	-1.7%
Retail - bottom 1/3	405.87	245.20	-160.67	-39.6%	-3.9%

Figure 14 Changes for small business gas consumers in cost components and bills for the Jemena distribution zone in nominal dollars.



The Sydney small business retail component of the average market offer has declined by -9.4% in 2018/19, as compared to 2017/18. This has brought the average retail component down to $703.55.

This is well above the average retail costs and margins that have previously been reported by two of the Big Three retailers (AGL and Origin).

That said, the average retail component of the bottom third of market offers is $245.20 – down from $405.87 in 2017/18. This figure is well within the range expected of an efficient retailer, hence it indicates that when a broader analysis of a selection of "cheaper" offers is assessed, there appears to be quite a number of market offers that would objectively be assessed as being reflective of efficient costs.

This is further confirmed in Appendix A where a broader analysis of a selection of "cheaper" offers is assessed. This indicates that there are quite a number of market offers that would objectively be assessed as being reflective of efficient costs.

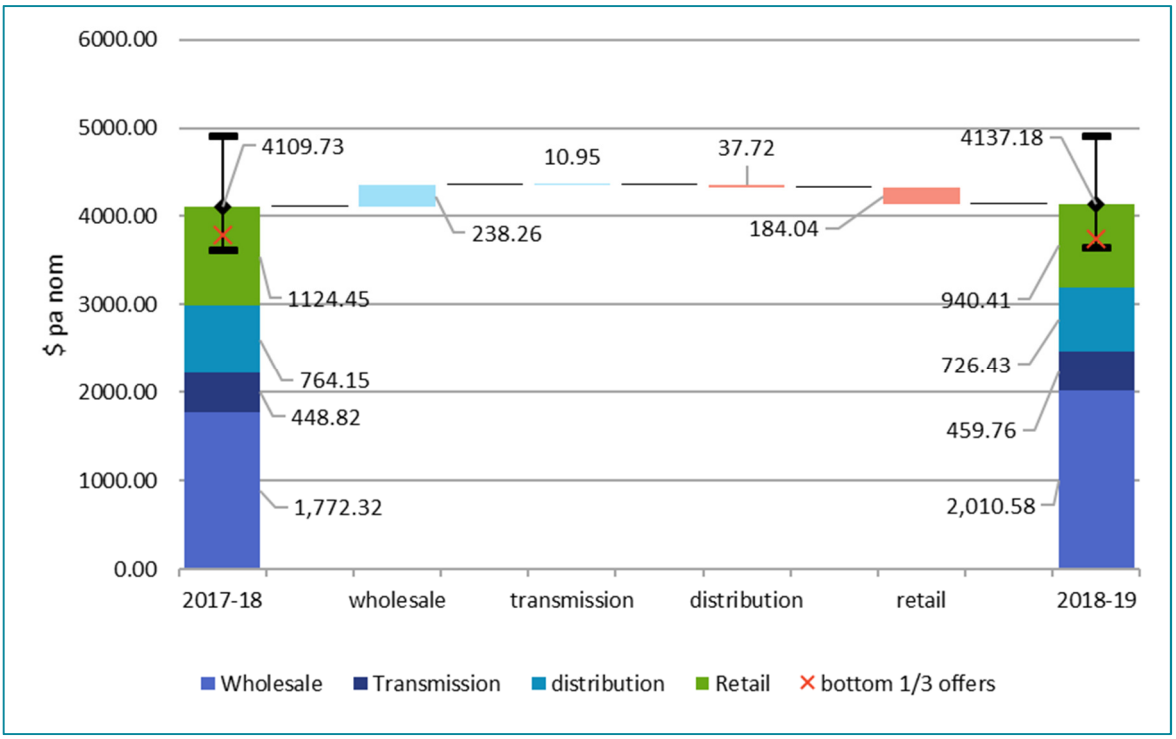
Overall, it would appear to OGW that efficient retail gas prices are on average being revealed to the Sydney market.

7.7.2. Albury

Table 16 Changes for small business gas consumers in costs components and bills from 2017-18 to 2018-19 in nom dollars.

	2017-18	2018-19	Change	Change in cost component	Contribution to overall change
Wholesale	1772.32	2010.58	238.26	13.4%	5.8%
Transmission	448.82	459.76	10.95	2.4%	0.3%
Distribution	764.15	726.43	-37.72	-4.9%	-0.9%
Retail	1124.45	940.41	-184.04	-16.4%	-4.5%
Indicative Bill	4109.73	4137.18	27.45	0.7%	0.7%
Indicative Bill -bottom 1/3	3791.59	3747.73	-43.86	-1.2%	-1.2%
Retail - bottom 1/3	806.31	550.95	-255.36	-31.7%	-6.7%

Figure 15 Changes for small business gas consumers in cost components and bills for the AGN-Albury distribution zone in nominal dollars.



Overall, the retail component of the average small business market offer in Albury has declined by -16.4% in 2018/19, as compared to 2017/18. This has brought the average retail component down to $940.41 in 2018/19. The average of the bottom third of market offers in 2018/19 is below this again, at $550.95. Both figures are above the average retail costs and margins that have previously been reported by two of the Big Three retailers (AGL and Origin). It is also above the retail components revealed in the Sydney commercial market.

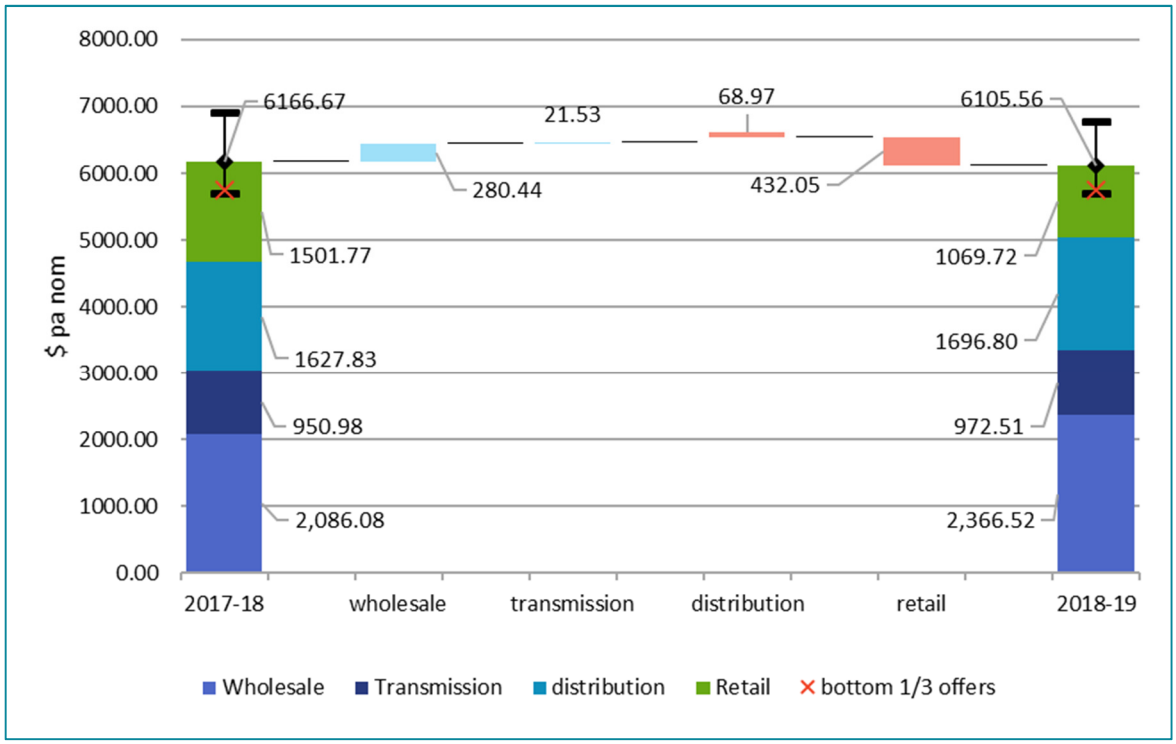
The difference may in part reflect the level of scale achievable in the Albury market, as compared to say the Sydney market, or it may reflect other characteristics of the market. However, the retail component of the minimum market offer – which is $443.23, down from $634.72 in 2017/18 - is much closer to the range expected of an efficient retailer. This may be suggestive of competition evolving in the market.

7.7.3. Queanbeyan

Table 17 Changes for small business gas consumers in costs components and bills from 2017-18 to 2018-19 in nom dollars.

	2017-18	2018-19	Change	Change in cost component	Contribution to overall change
Wholesale	2086.08	2366.52	280.44	13.4%	4.5%
Transmission	950.98	972.51	21.53	2.3%	0.3%
Distribution	1627.83	1696.80	68.97	4.2%	1.1%
Retail	1501.77	1069.72	-432.05	-28.8%	-7.0%
Indicative Bill	6166.67	6105.56	-61.11	-1.0%	-1.0%
Indicative Bill -bottom 1/3	5751.36	5751.79	0.43	0.0%	0.0%
Retail - bottom 1/3	1086.47	715.96	-370.51	-34.1%	-6.4%

Figure 16 Changes for small business gas consumers in cost components and bills for the Queanbeyan Evoenergy-ACT distribution zone in nominal dollars.



Overall, the retail component for Queanbeyan of the average small business market offer has declined by -28.8% in 2018/19, as compared to 2017/18. This has brought the average retail component down to $1069.72 in 2018/19. The average of the bottom third of market offers n 2018/19 is below this again, at $715.96.

The Queanbeyan retail component for both the average and bottom third retail components have had significant decreases (-28.8% and 34.1%) from the 2017-18 year and the 2018-19 year. The overall retail bill has remained steady for both classifications, but all the other cost components have increased with the residual retail cost component absorbing these increases.

8. Conclusion

The wholesale cost component remains one of the major contributions to the residential and small business bill and its magnitude varies between residential and small business with generally a high contribution to small business bills mostly due to the higher consumption on the same or similar tariff structures.

While wholesale pricing has reduced over the last few years with some additional supply from Queensland and greater government focus it still will likely be volatile due to the tight supply-demand balance and to see a greater downward pressure on wholesale cost component it has been widely reported that new supplies of reasonable quantity and greater price transparency are needed on the east coast.

The transmission costs remain stable over the time frame and showed expected increases within CPI. As pipeline capacity becomes available through greater efficiency such as pipeline capacity trading, any potential barriers due to the ability to secure transport capacity by new entrants into some of the regional distribution zones may mitigate.

Distribution cost components generally show a decrease in contribution to the indicative bill over the two years. Many of the distribution networks have entered into new Access Arrangements which have passed through lower costs of capital and greater scrutiny by the AER which is now becoming transparent in the contribution to indicative bill reduction.

The retail cost varies significantly from distribution zone to distribution zone due to individual consumption and market size. The Jemena network (Sydney) has the greatest competition with 30 market offers examined across nine retailers. All distribution zones show a retraction in the retail cost component in the competitive bottom third offers for the residential indicative bills.

Appendix A

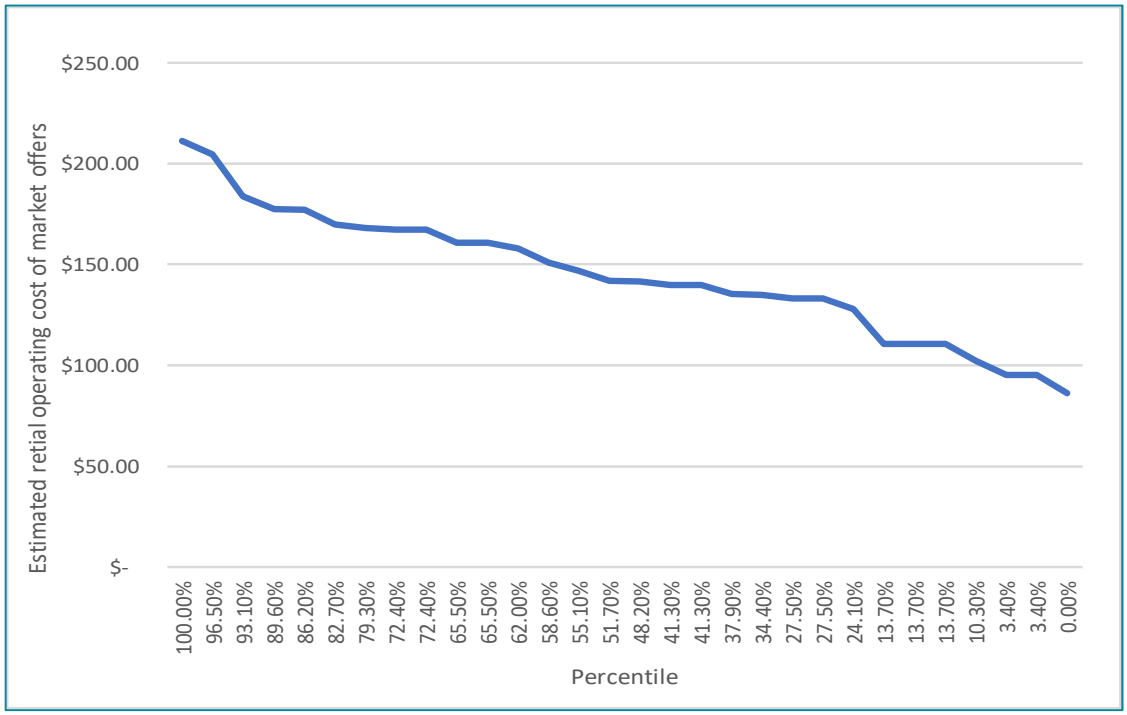
A.1 Retail operating costs

The following sub-sections outline the results of an analysis of the underling retail operating costs for each of the different regions by customer group – for this analysis this is the retail component with a percentage allowance for retail margins removed. In the body of the report the retail analysis has been based on the total retail cost component.

A.1.1 Sydney – Residential

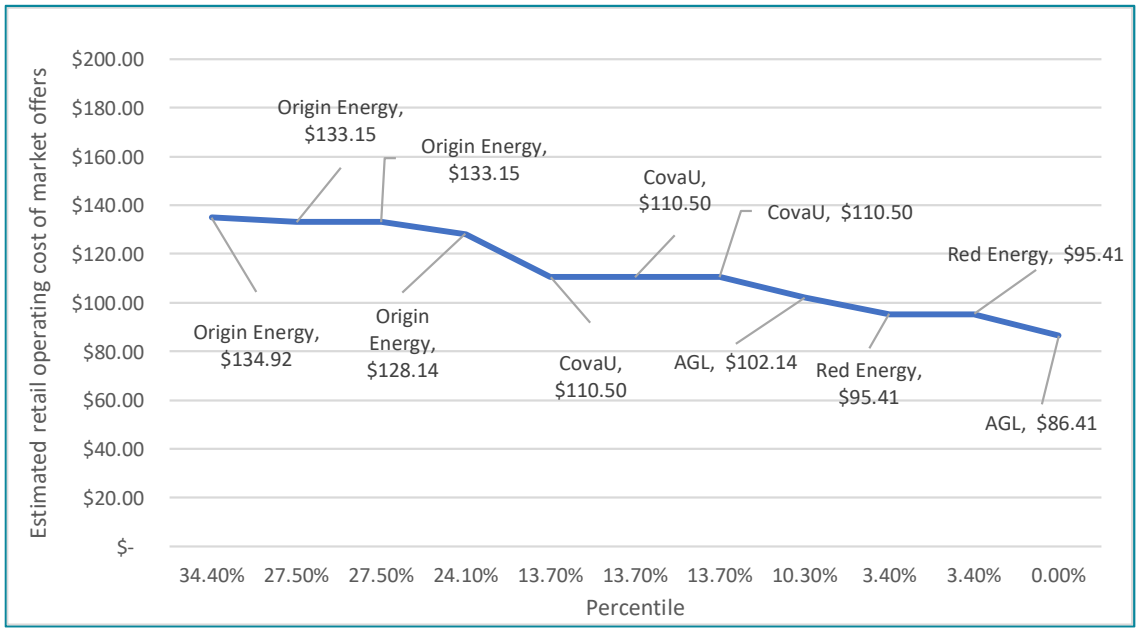
The following figures illustrate the distribution of the retail operating costs that we have inferred from the available market offers for the 2017-18 and 2018-19 years. These assume that each retailer is earning a 6.8% margin – the mid-point of IPART's previously published range[32].

Figure 17: Retail operating costs inferred from residential market offers in the Sydney supply region – 2017/18



32 If retail margins are higher (or lower) than this mid-point, the retail operating costs inferred from the market offers and reported in this section will be either lower (or higher) than reported.

Figure 18: Retail operating costs inferred from the lowest third of residential market offers in the Sydney supply region – 2017/18



The average of the bottom 34% in 2017/18 is $112 (nominal).

Figure 19: Retail operating costs inferred from residential market offers in the Sydney supply region – 2018/19

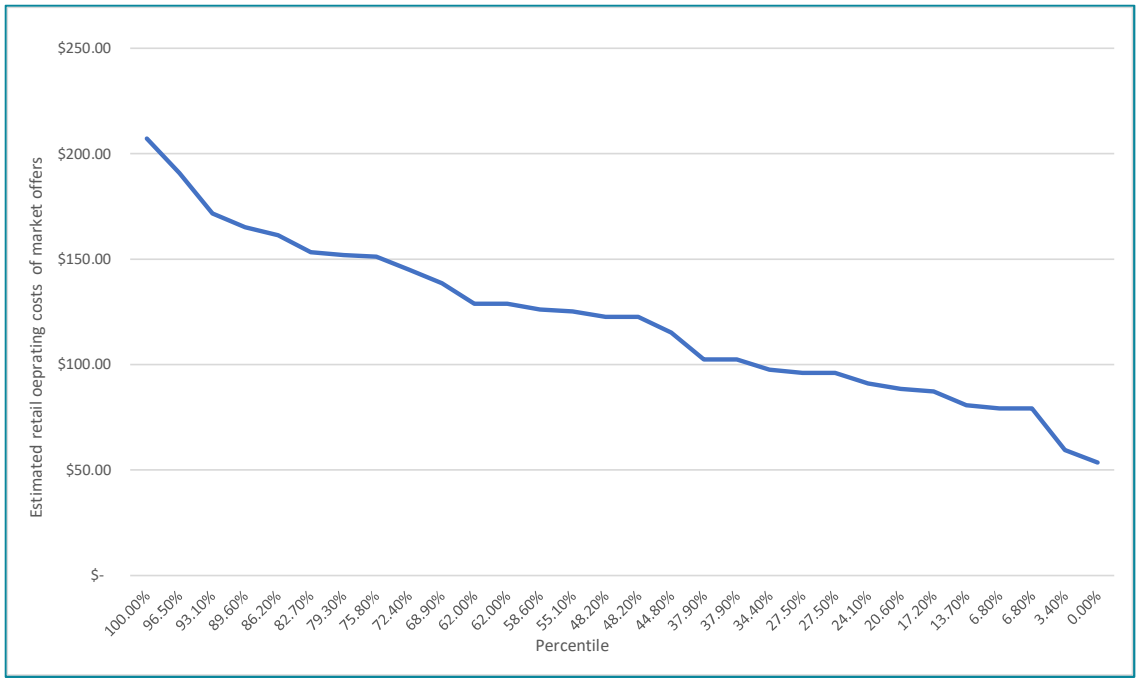


Figure 20: Retail operating costs inferred from the lowest third of residential market offers in the Sydney supply region – 2018/19

The average of the bottom 34% is $82.50.

Overall, assuming the retail margin remains the same, the retail operating costs inferred from the cheapest 30%-40% of market offers have contributed to around a $30 reduction in the most efficient market offers available in the Sydney market in 2017/18, bringing the average of retail operating costs in the lowest priced offers down to $82.50.

This falls well below the mid-point ($130) of IPART's retail operating cost figures (in $2018). For completeness, it is noted that 62% of residential market offers have inferred retail operating cost of below $130 in 2018/19.

As a further comparison, AGL has previously reported costs which are broadly similar, albeit higher, than those outlined above, at:

- Cost to serve per customer account: $83 in FY18[33], up from $70 in FY17[34];
- Cost to grow per customer account: $101 in FY18, up from $87 in FY17.

Origin reported similar costs (in total), at[35]:

- Costs to maintain ($ per average customer): $124 in FY18, up from $109 in FY 17; and
- Costs to acquire / retain ($ per average customer): $46 in FY18, up from $36 in FY17.

Overall, on face value, it would appear to us that a subset of the gas prices being revealed to the Sydney market are efficient.

A.1.2 Sydney – Commercial

The following figures illustrate the distribution of the retail operating costs that we have inferred from the available market offers for the 2017-18 and 2018-19 years. These assume that each retailer is earning a 6.8% margin – the mid-point of IPART's previously published range.

33 AGL, 2018 Annual Report, page 31

34 AGL Energy FY17 Full-Year Results, page 19

35 Origin Energy, Directors' Report For the Year Ended 30 June 2018, Page 56

Figure 21: Retail operating costs inferred from commercial market offers in the Sydney supply region - 2017/18

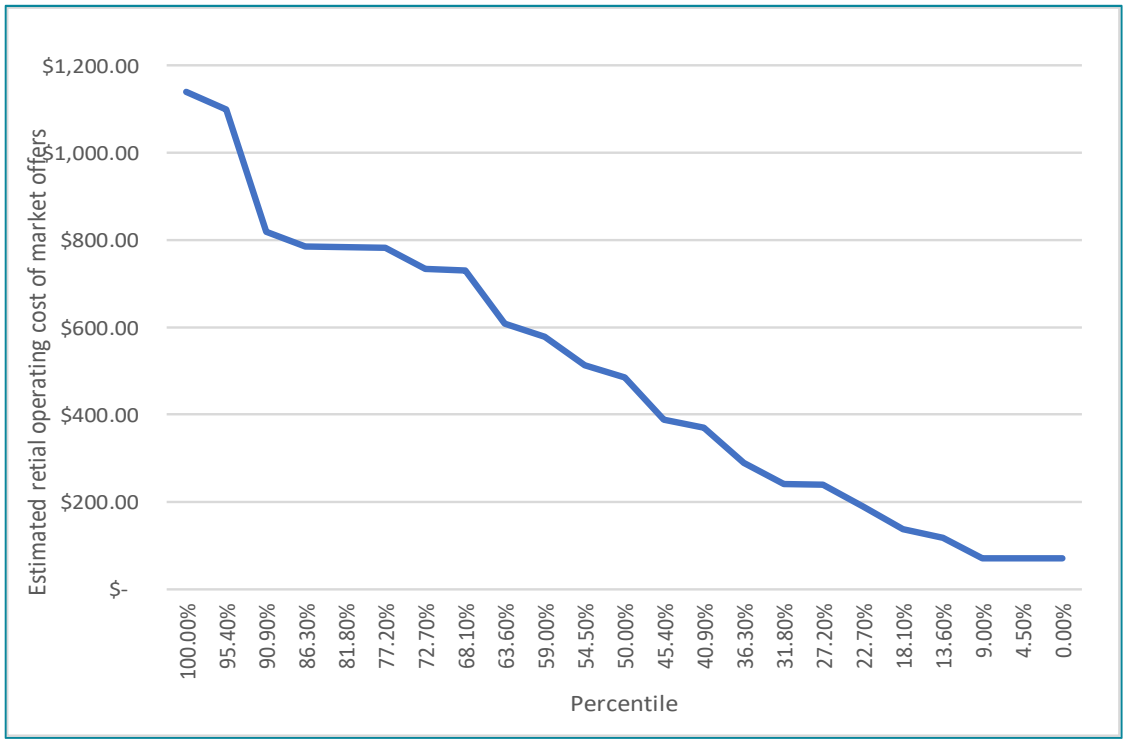
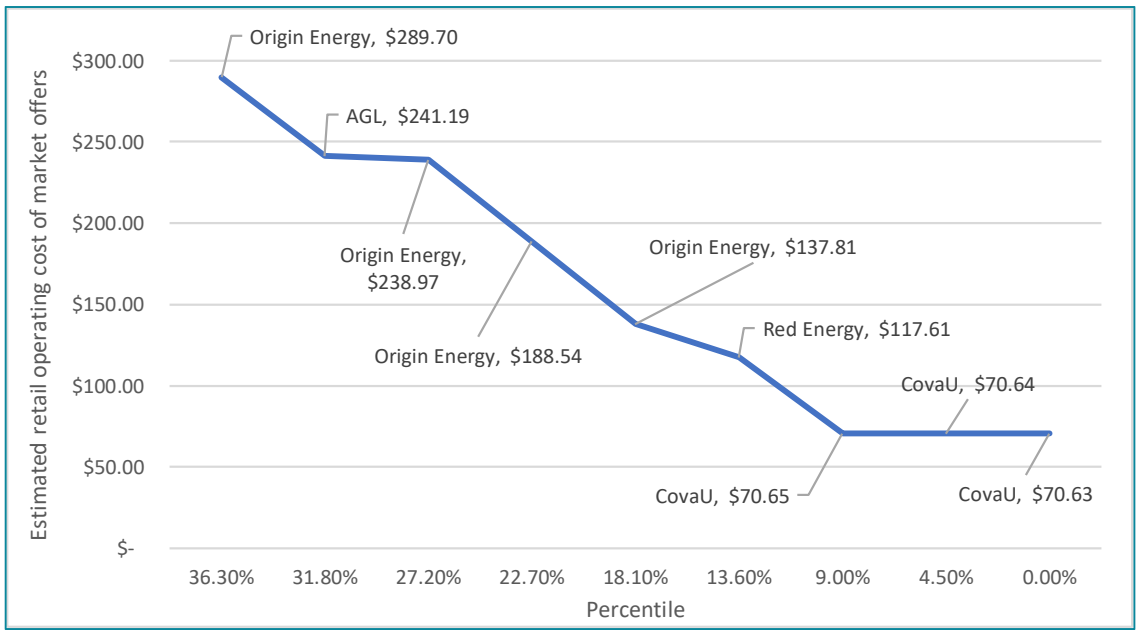


Figure 22: Retail operating costs inferred from the lowest third of market offers in the Sydney supply region - 2017/18



The average of the lowest 35% is $158.

Figure 23: Retail operating costs inferred from commercial market offers in the Sydney supply region - 2018/19

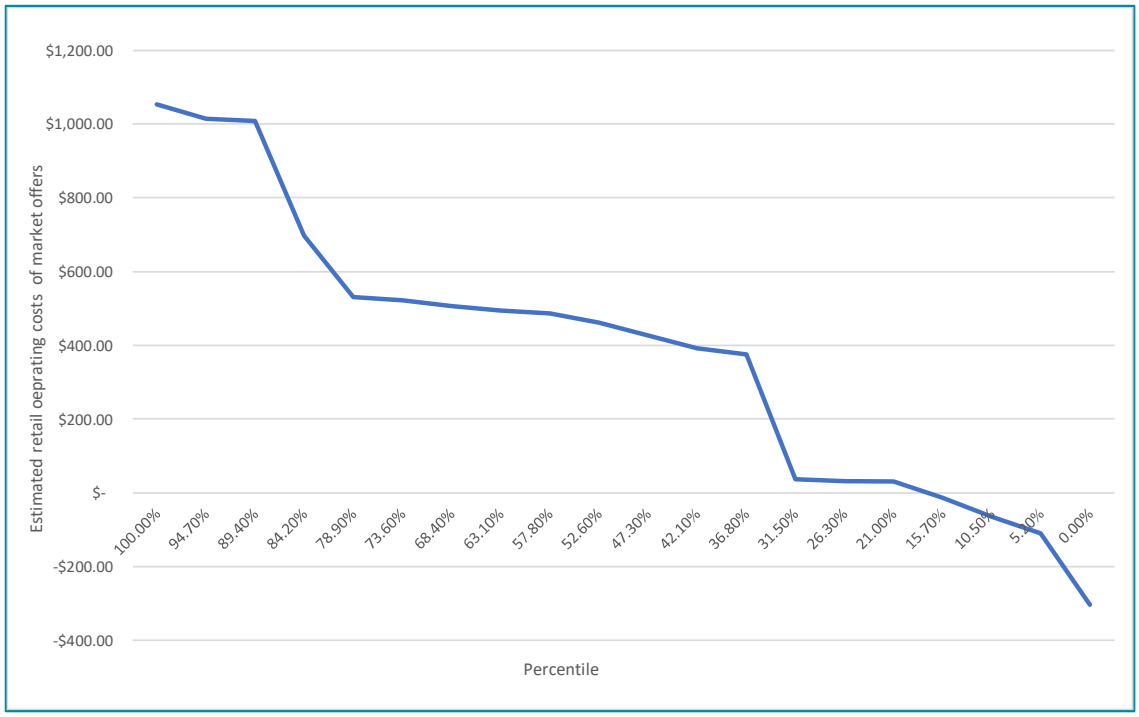
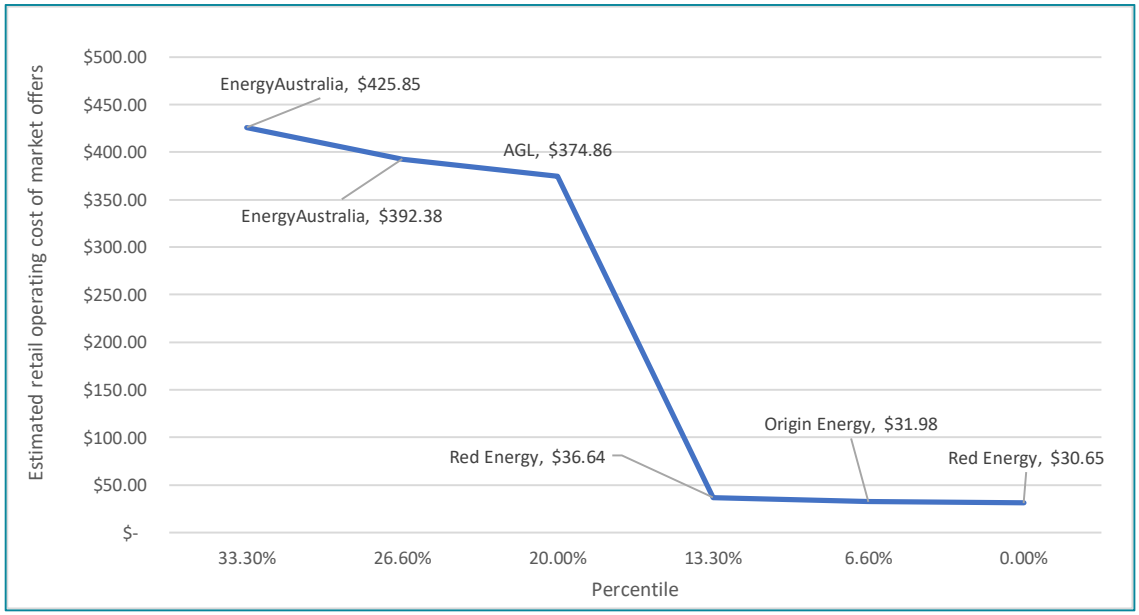


Figure 24: Retail operating costs inferred from the lowest third of market offers to commercial customers (excluding those with negative estimated retail operating costs) in the Sydney supply region - 2017/18



After removing the small number of data points where the retail operating costs are negative, the average of the bottom around 33% is $215. On face value, this indicates that the retail operating cost has *increased* between 2017/18 and 2018/19, however, this is likely to be affected by the removal of the negative values. If, instead, we assumed that the retail operating costs in these negative offers equated to the average of the bottom three lowest positive offers, the overall average reduces to $76. This is well below the mid-point ($130) of IPART's retail operating cost figures (in $2018), hence on face value, it would appear that a subset of the market offers being revealed to commercial customers in the Sydney market are efficient.

A.1.3 Albury – Residential

The following figures illustrate the retail operating costs that we have inferred from the available residential market offers in the Albury region for the 2017-18 and 2018-19 years. These assume that each retailer is earning a 6.8% margin – the mid-point of IPART's previously published range.

Figure 25: Retail operating costs inferred from the residential market offers available in the Albury supply region – 2017/18

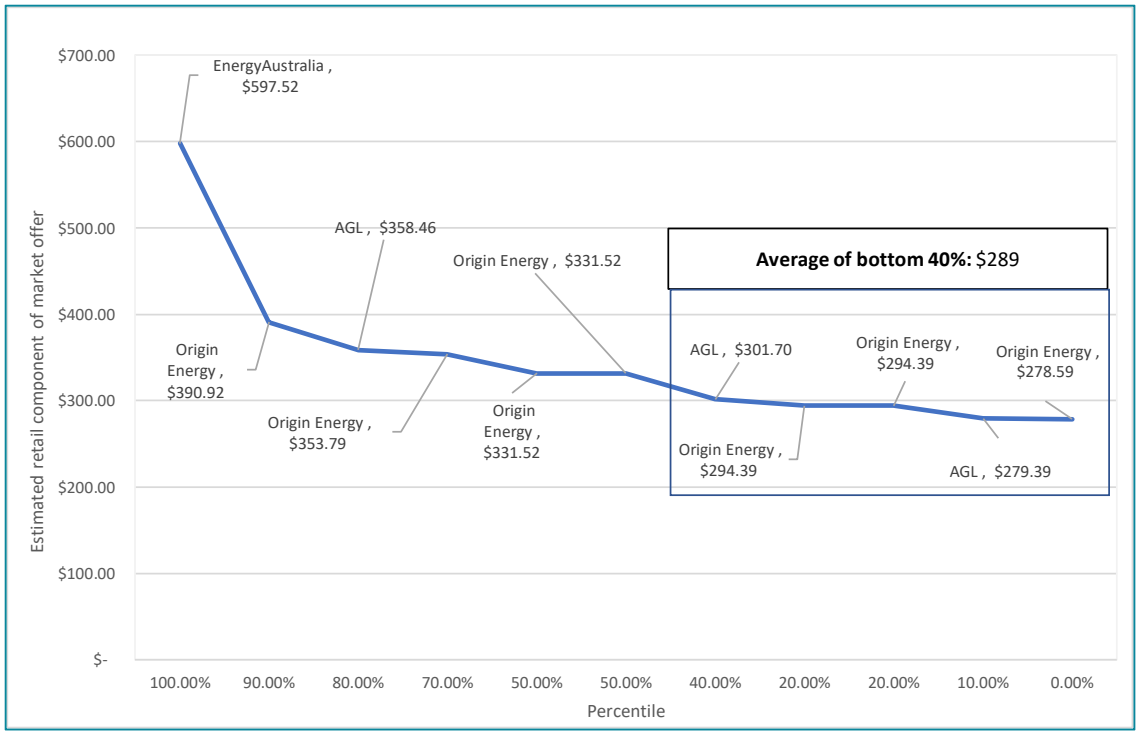
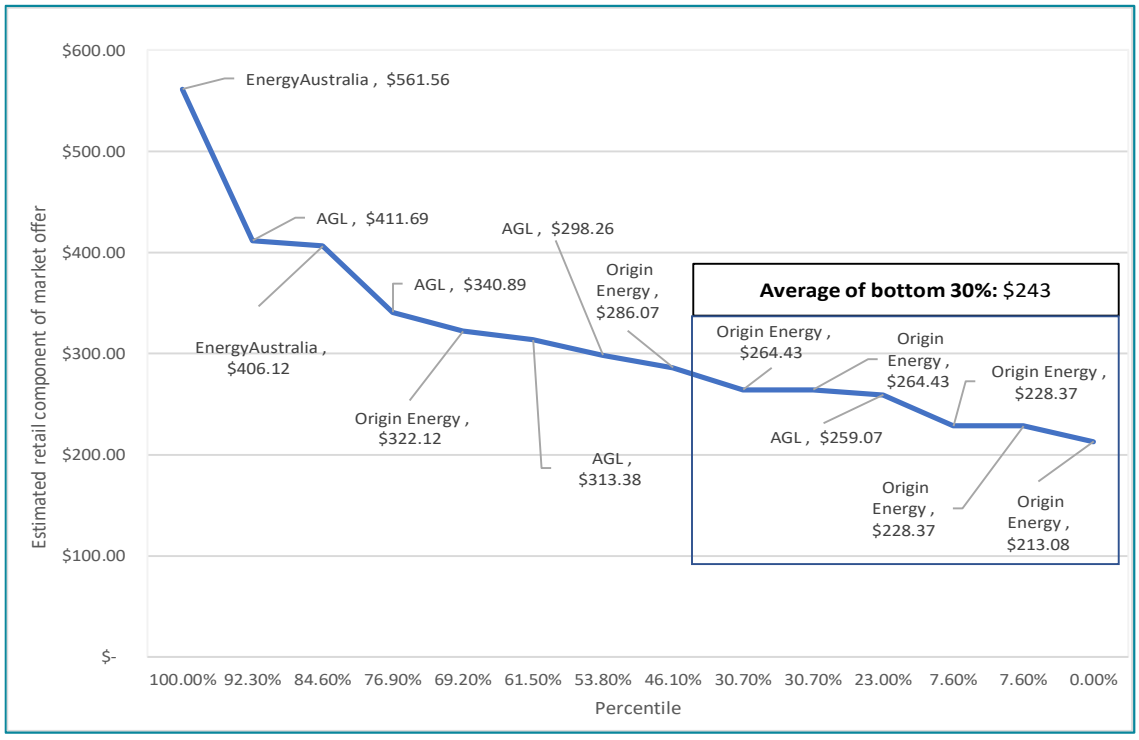


Figure 26: Retail operating costs inferred from the residential market offers available in the Albury supply region – 2018/19



As can be seen from the above graphs, assuming the retail margin remains the same, the retail operating costs inferred from the cheapest 30%-40% of market offers have contributed to around a $46 reduction in the most efficient market offers available in the Albury market in 2017/18, bringing the average of the lowest 30-40% of offers down to $243.

In comparison, the theoretical, benchmarked costs previously relied upon by IPART to estimate retail operating costs are in the order of $130 (based on the mid-point of IPART's previously published range, converted to $2018). Whilst the outturn average figure for the bottom 30% of market offers is materially higher than the benchmark figure of $130 (and it would still be, even if we assumed that retailers were actually achieving margins that are at the top end of IPARTs range), the difference may in part reflect the level of scale achievable in the Albury market, as compared to say the Sydney market. This would impact upon the costs of entering the market, recruiting and retaining customers in that market. It could of course also be a function of the market itself, and the underlying level of competition. To this end, whilst there are more market offers available in 2018/19 as compared to 2017/18, which, everything else being equal, would indicate some heightening of competition, the feature that has not changed since 2017/18 is that this market is only serviced by the big three retailers.

As competition in this market matures, one would expect that unless there are underlying barriers to entry – such as there being a constraint on transporting gas to the Albury region – more competitors may enter this market if the above figures are not reflective of the underlying efficient cost of providing retail services in this market.

A.1.4 Albury – Commercial

The following figures illustrate the distribution of the retail operating costs that we have inferred from the available market offers for the 2017-18 and 2018-19 years. These assume that each retailer is earning a 6.8% margin – the mid-point of IPART's previously published range.

Figure 27: Retail operating costs inferred from commercial market offers in the Albury supply region - 2017/18

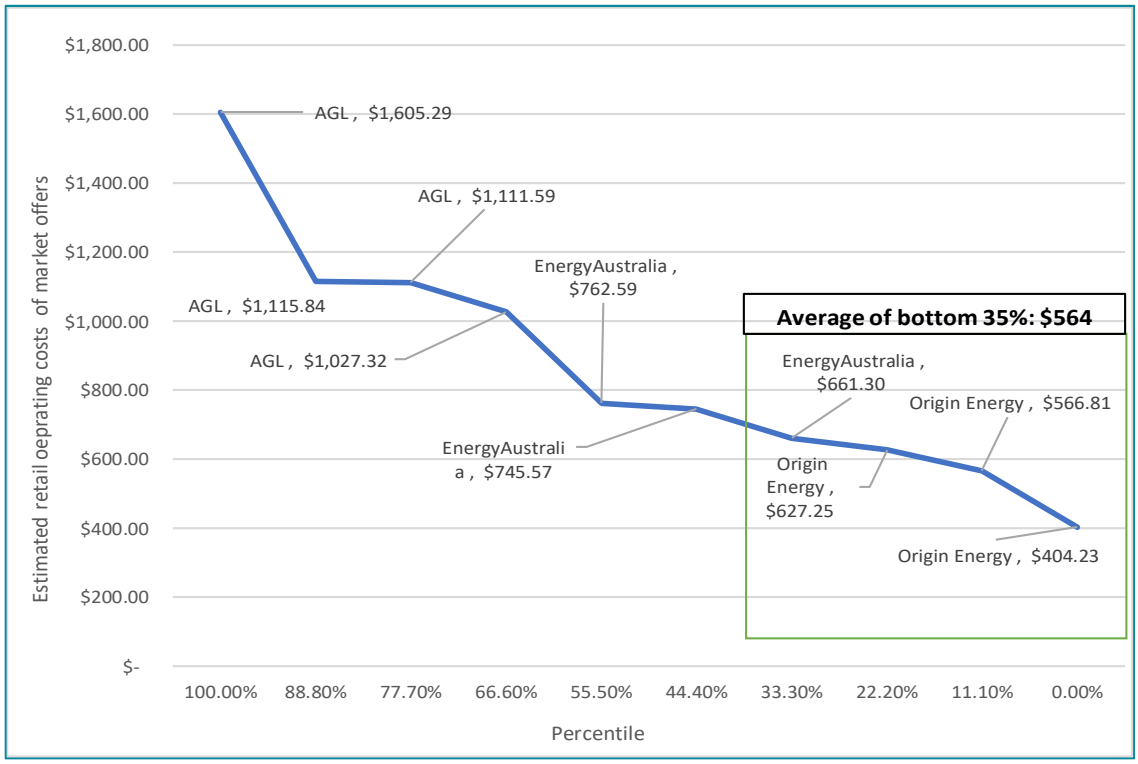
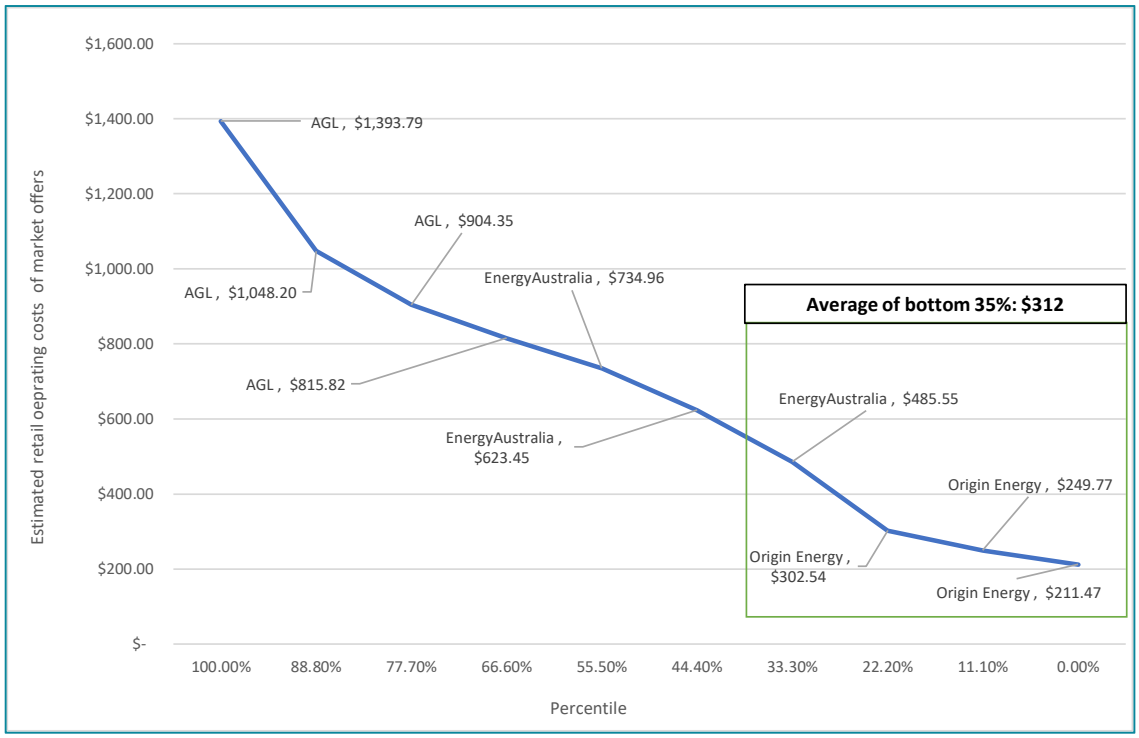


Figure 28: Retail operating costs inferred from commercial market offers in the Albury supply region - 2018/19



As can be seen from the above graphs, assuming the retail margin remains the same, the retail operating costs inferred from the cheapest 30%-40% of market offers have contributed to around a $252 reduction in the most efficient market offers available in the Albury commercial market in 2017/18, bringing the average of the lowest 30-40% of offers down to $312.

Whilst the outturn average figure for the bottom 30% of market offers is materially higher than the benchmark figure of $130 (and it would still be, even if we assumed that retailers were actually achieving margins that are at the top end of IPARTs range), the difference may in part reflect the level of scale achievable in the Albury market, as compared to say the Sydney market. The fact that the retailer operating costs inferred from the bottom 30-40% of residential market offers is similar to those inferred from commercial market offers may add weight to this being at least in part, a function of the factors affecting the Albury market.

A.1.5 Queanbeyan – Residential

The following figures illustrate the distribution of the retail operating costs that we have inferred from available market offers for the 2017-18 and 2018-19 years. These assume that each retailer is earning a 6.8% margin – the mid-point of IPART's previously published range.

Figure 29: Retail operating costs inferred from the residential market offers in the Queanbeyan supply region – 2017/18

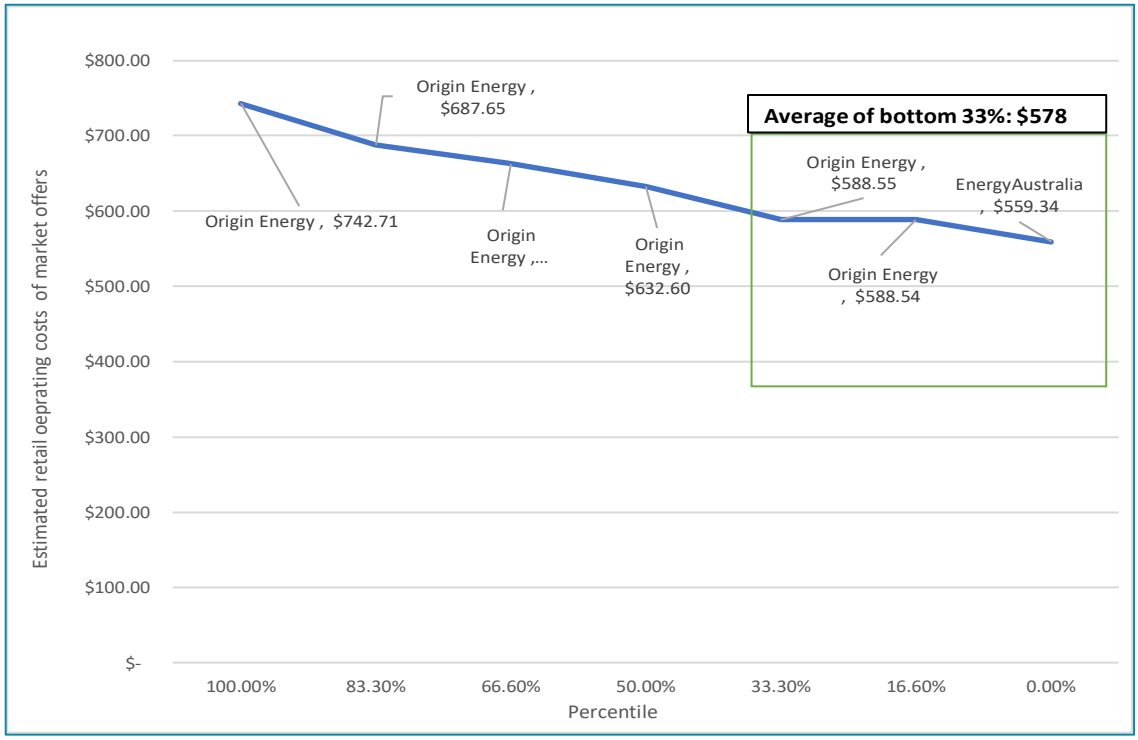
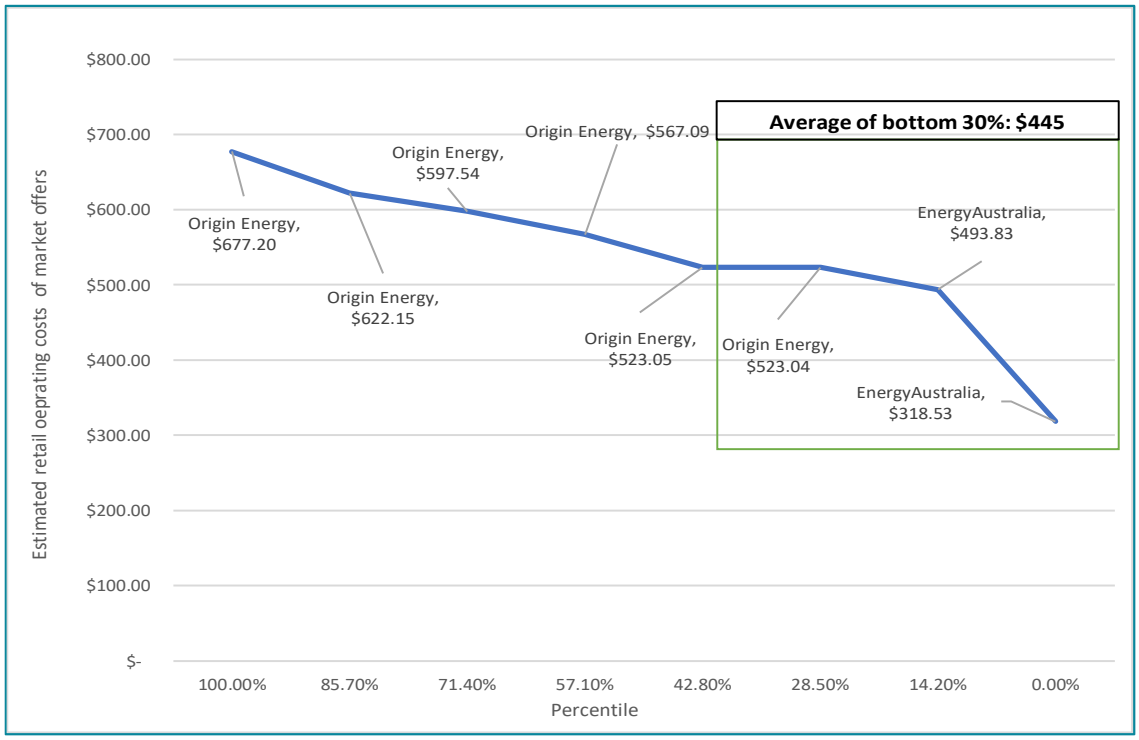


Figure 30: Retail operating costs inferred from the residential market offers available in the Queanbeyan supply region – 2018/19



As can be seen from the above graphs, assuming the retail margin remains the same, the retail operating costs inferred from the cheapest 30%-40% of market offers have contributed to around a $133 reduction in the most efficient market offers available in the Queanbeyan market in 2017/18, bringing the average retail operating costs inferred from the lowest priced offers down to $445.

In comparison, the theoretical, benchmarked costs previously relied upon by IPART to estimate retail operating costs are in the order of $130 (based on the mid-point of IPART's previously published range, converted to $2018). Despite the apparent reduction, the outturn figures are materially above the benchmark rate of $130 (and it would be even if we assumed that retailers were achieving margins that were at the top end of IPARTs previously published range), as well as the retail operating costs inferred from residential market offers in the Sydney region or the Albury region. They are also significantly above the average cost to serve and cost to acquire/retain figures that have historically been publicly reported by two of the "Big Three" retailers, Origin and AGL.

That said, similar to the Albury market, this difference may in part reflect the level of scale achievable in this market, as compared to say the Sydney market. This in turn would impact upon the cost of recruitment and retention per customer. That said, it is difficult, on face value, to see that this would explain the sizable difference in the retail operating costs inferred from the available market offers.

It could of course also reflect other features of the market itself, for example underlying constraints (whether physical or contractual) on transporting gas to this market.

Finally, it is noted that whilst there were more market offers available in 2018/19 as compared to 2017/18, this market is still only serviced by the big three retailers plus ActewAGL. This may evolve as this market matures.

A.1.6 Queanbeyan - Commercial

The following figures illustrate the distribution of the retail operating costs that we have inferred from the available commercial market offers for the 2017-18 and 2018-19 years. These assume that each retailer is earning a 6.8% margin – the mid-point of IPART's previously published range.

Figure 31: Retail operating costs inferred from commercial market offers in the Queanbeyan supply region - 2017/18

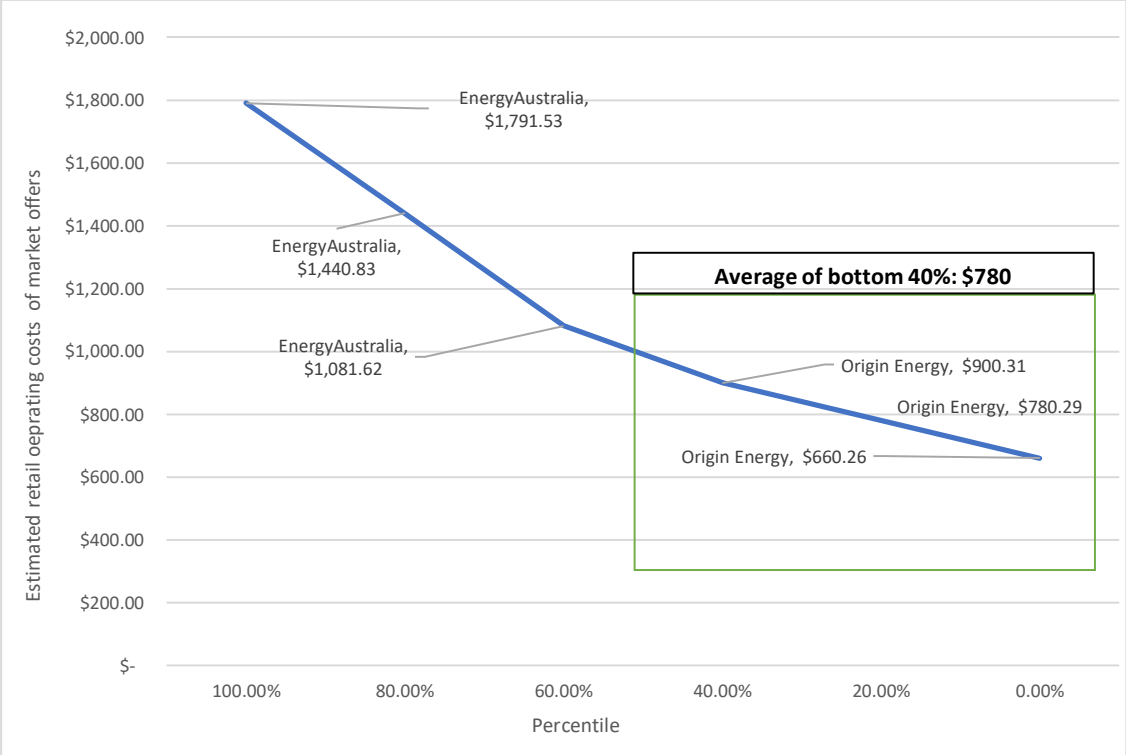
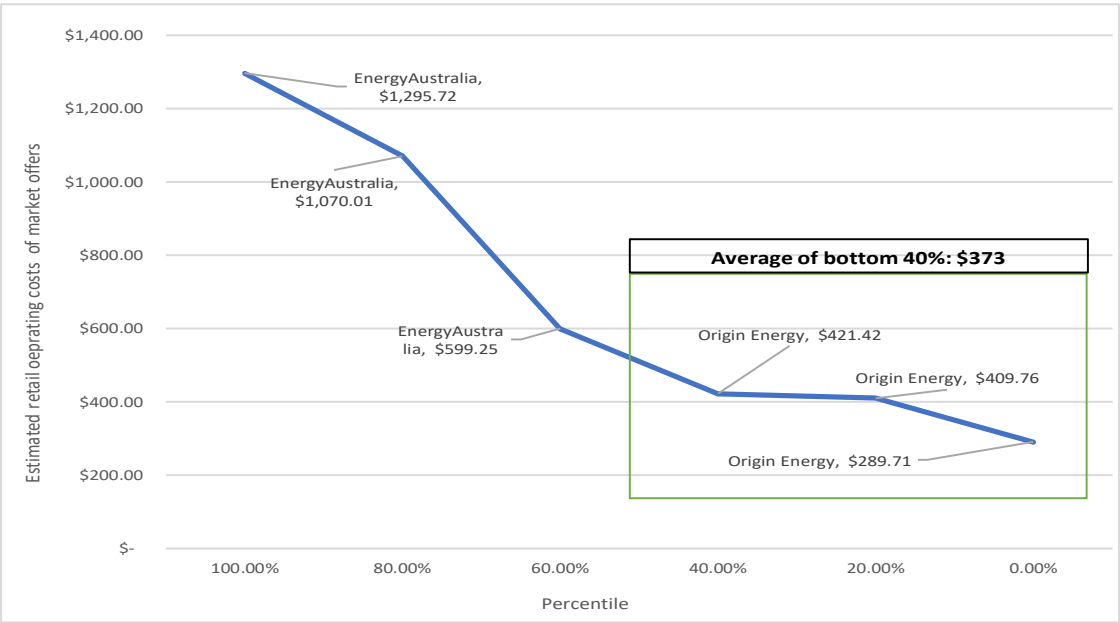


Figure 32: Retail operating costs inferred from commercial market offers in the Queanbeyan supply region - 2017/18



As can be seen from the above graphs, assuming the retail margin remains the same, the retail operating costs inferred from the cheapest 30%-40% of market offers have contributed to significant $407 reduction in the most efficient market offers available in the Queanbeyan commercial market in 2017/18. Whilst this has brought the average of the lowest 30-40% of offers down significantly, they are still $373. This is significantly higher than the benchmark figure of $130 (and it would still be, even if we assumed that retailers were actually achieving margins that are at the top end of IPARTs range). It is also higher than the retail operating costs inferred from commercial market offers in the Albury region, a region that is not dissimilar in scale.

As we observed in relation to the inferred residential retail operating costs, it is difficult, on face value, to see what factors could explain such a sizable difference in the retail operating costs of Queanbeyan relative to the benchmark rates, or even Queanbeyan and Albury.