ACIL ALLEN

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Report to Australian Energy Regulator

Default Market Offer 2024-25

Methodologies for estimating the retail allowance and estimated values

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Our vision is to be Australia's most trusted economics, policy and strategy advisory firm. We are committed and passionate about providing rigorous independent advice that contributes to a better world.

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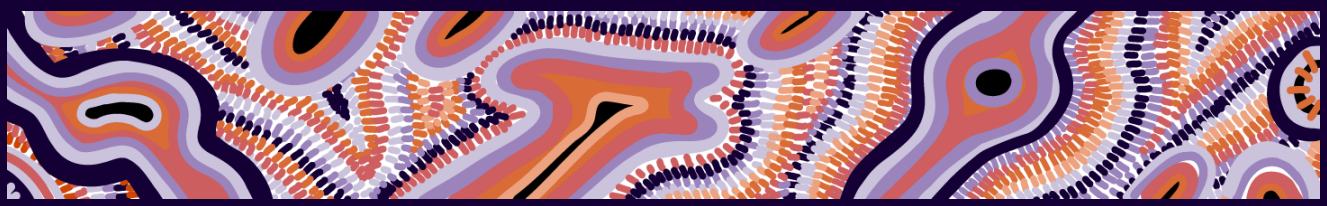

Goomup, by Jarni McGuire

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Executive summary

The Australian Energy Regulator (AER) is currently determining the default market offer (DMO) prices for small electricity customers in New South Wales, South Australia and south-east Queensland for 2024-25 (DMO 6). It is currently considering alternative approaches to setting the DMO price, including the retail allowance (or margin).

The AER engaged ACIL Allen to provide expert research, analysis, advice and recommendations on methodologies to determine reasonable electricity retail margins to include in the DMO 6 prices.

The purpose of this report is to review retail margin methodologies and values currently being used by other regulators, develop options and recommendations on the methodology for estimating a reasonable margin, and present the value of a reasonable margin for the DMO 6 prices estimated using the recommended methodology.

Retail margins in other jurisdictions

Table ES 1 summarises the approaches that have been adopted by the regulators in Victoria, the ACT, Queensland and Tasmania to determine the retail margin included in regulated retail electricity prices.

To provide context for these decisions, the table also provides other information that is relevant to the decisions, including the competitiveness of the retail electricity market, the basis for determining the retail electricity price, the high-level approach to determining the wholesale electricity costs, and a comparison of the retail operating costs and retail margin in the 2023-24 prices. The table does not include information on the building blocks that are determined in a similar way across regulators, such as the network costs, or where any differences are not material to the outcome, such as the environmental costs.

All else being equal, we would expect that the retail margin should be higher in those jurisdictions in which the:

— retail electricity prices facilitate a more competitive market

— methodology for estimating the wholesale electricity prices exposes the retailers to more risk

— allowance for retail operating costs is lower.

However, a comparison of the retail margins indicates that this is not necessarily the case.

Table ES 1 Summary of retail margin determinations in other jurisdictions

Jurisdiction	Competitiveness of retail electricity market	Basis for determination	Wholesale electricity costs	Retail operating costs (2023-24)	Retail margin (2023-24)	Additional margin (2023-24)
Victoria	Competitive	Set default prices for residential customers (flat tariff, time of use tariff and controlled load tariff) and small business customers (flat tariff and time of use tariff)	Median costs plus small volatility allowance	$132.03 per customer based on retailer data, plus $43.89 per customer for customer acquisition and retention costs based on 2013-14 ACCC benchmark No fixed costs included for controlled load	5.3% Reduced from 5.7% (based on IPART's 2013 analysis) as reported margins have decreased and other regulators have decreased the retail margin. IPART's 2013 analysis averaged the retail margin estimated using an expected returns approach, a bottom-up approach and benchmarked margins across lister retailers in other industries	Nil
ACT	Not effectively competitive	Revenue earned by ActewAGL from small electricity customers	Median costs plus small volatility allowance	$143.00 per customer based on indexed 2013 benchmark, plus $31.81 per customer for regulatory changes	5.6% Reduced from 5.7% (based on IPART's 2013 analysis) as wholesale electricity prices and interest rates have changed	Nil
Queensland (regional)	Not effectively competitive	Set regulated maximum retail prices for all customers	95% percentile of distribution of wholesale electricity costs	Residential - $126.78 per customer Small business - $163.03 per customer Based on benchmarking 2021-22 market offers in south-east Queensland, indexed by CPI	Residential flat load – 6.05% Residential controlled load – 7.06% Small business flat load – 15.31% Based on benchmarking 2021-22 market offers in south-east Queensland	Standing offer adjustment of 4.56% but reduced to zero to align with DMO price
Tasmania	Not effectively competitive	Revenue earned by Aurora Energy from small electricity customers	Median costs	$167.36 per customer based on Aurora's costs, tested against other regulatory decisions	4.8% Based on a 5.25% margin (which is lower than the 5.7% from the 2013 IPART analysis due to sharply declining margins and a new billing system). This was converted to a dollar figure, which was lower than 5.25% when expressed as a percentage due to an increase in wholesale electricity prices.	Nil

Source: ACIL Allen based on data sources identified in chapter 2

Identification of retail margin methodologies

From our review of the methodologies adopted in other jurisdictions to estimate the retail margin, and stakeholders' submissions on the AER's Issues Paper on the DMO 6 prices[1], we identified the following methodologies that could be adopted by the AER to estimate the retail allowance to include in the DMO 6 prices:

1. Assessing the level of a reasonable (efficient) retail margin:
    a) expected returns approach, which estimates a weighted average cost of capital required so that the "expected cash flows compensate investors for the systematic risk of those cash flows"[2]
    b) using retailers' data
    c) benchmarking of:
        i) regulatory decisions
        ii) market offers.
2. Presentation of the retail margin:
    a) percentage of total costs (either inclusive or exclusive of the margin)
    b) fixed amount
    c) percentage of the retail cost to serve.
3. If required, basis for updating the retail margin over time:
    a) change in level of retail margin (as a percentage):
        i) change in weighted average cost of capital (WACC)
        ii) change in interest rates
    b) change in the cost stack to which the retail margin is applied:
        i) change in consumer price index (CPI)
        ii) change in wholesale electricity prices.

Assessment criteria

Each of the options for estimating the retail margin have been assessed against the following criteria, noting that some of these are not relevant to all options:

— transparency of the methodology, which is consistent with good regulatory practice

— availability of current data, which is consistent with good regulatory practice

— extent to which it takes into account the potential drivers of change identified by the AER such as sector risk, required return on capital, risk free rates, interest rates, inflation, customer types, regions etc.

— extent to which it takes into account any changes to the way in which the other cost components are estimated or any errors in the other cost components

— extent to which it informs the appropriate balance between incentivising competition and consumer engagement in the market and protecting consumers, that is, the extent to which it informs the AER on the separation of a reasonable (or efficient) margin and competition component.

[1] Australian Energy Regulator, *Default market offer prices 2024-25, Issues paper*, October 2023.

[2] SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales,* 4 June 2013, p. 4.

Assessment of the retail margin methodologies

Assessing the level of the retail margin

The assessment of the approaches to assess the level of a reasonable retail margin is summarised in Table ES 2.

The approach that best meets these criteria is to benchmark market offers. It is a transparent approach, which is based on current data, and is flexible to be able to respond to changes in drivers and in the way the other cost components are derived. It will inform the separation of an efficient margin and competition allowance, and whether these should be variable (percentage-based) or fixed (in dollar terms).

The expected returns approach is also a transparent approach. It relies on some parameters that are readily available, but other parameters are more subjective and could be controversial. The expected returns approach responds to some drivers but does not respond well to changes in the approach to calculating other cost components. It also does not inform the separation of an efficient margin and competition allowance.

Benchmarking other regulatory decisions is a transparent approach but the other regulatory decisions that are benchmarked are based on a 2013 decision by IPART. Regulators have exercised discretion to vary this benchmark margin based on changes in drivers and other cost components, but the decision to vary the margin from the benchmark is largely subjective. This approach would only inform the separation of an efficient margin and competition component if the QCA's analysis was also included in benchmarking, but it has not been included to date.

Using retailers' data is not a transparent approach as the data are provided by the retailers on a confidential basis. While the data provided will be current, it may be of limited value because the data are commonly derived based on the retailers allocating costs to different products and to different jurisdictions. Additionally, electricity retailers treat costs differently. This approach is not responsive to changes in the way in which other cost components are derived, and provides limited information on the separation of an efficient margin and competition allowance.

On the basis of this assessment, we recommend assessing the level of a reasonable retail margin by benchmarking market offers.

Table ES 2 Summary of assessment of approaches to estimate the level of a reasonable retail margin

	Transparency of methodology	Availability of current data	Responsiveness to changes in drivers	Responsiveness to changes in other cost components	Informs separation of efficient margin and competition component
Expected returns approach	●	◑	◑	◔	○
Using retailers' data	○	◑	●	○	◔
Benchmarking regulatory decisions	●	○	◔	◔	◔
Benchmarking market offers	●	●	◕	●	●

Note: ● Meets criteria ◕ Largely meets criteria ◑ Partly meets criteria ◔ Somewhat meets criteria ○ Does not meet criteria

Source: ACIL Allen.

Presentation of the retail margin

The assessment of the approaches to present the retail margin is summarised in Table ES 3.

The presentation that best meets the assessment criteria is to present the retail margin as a percentage of total costs. The percentage can be readily compared over time, across jurisdictions and across different types of customers. Additionally, if presented in this form, the retail margin would respond to changes in the required return on capital, risk free rates, interest rates, inflation, or sector risk to the extent that these changes are reflected in the other cost components to which the retail margin is applied.

If the retail margin is expressed as a percentage of the retail cost to serve, it could be compared across jurisdictions and across different types of customers. A fixed retail margin cannot be readily compared over time, across jurisdictions and across different types of customers, as it is a function of the percentage basis on which it is set as well as the median usage of a customer in that particular class, which will vary across jurisdictions and across different types of customers.

A retail margin presented as a fixed amount or a percentage of the retail cost to serve would not respond to changes in the required return on capital, risk free rates, interest rates, inflation, or sector risk. It would also not reflect the risks to the retailer of individual customers. The retail margin paid by a low usage customer would be the same as that paid by a high usage customer, despite the working capital costs being higher for the high usage customer.

On the basis of this assessment, we recommend presenting the retail margin as a percentage of total costs, either inclusive or exclusive of the margin.

Table ES 3 Summary of assessment of approaches to assess the presentation of the retail margin

	Transparency	Availability of current data	Responsiveness to changes in drivers	Responsiveness to changes in other cost components	Informs separation of efficient margin and competition component
Percentage of total costs	●	N/A	◕	N/A	N/A
Fixed amount	◔	N/A	○	N/A	N/A
Percentage of retail cost to serve	◑	N/A	○	N/A	N/A

Note: N/A Not applicable ● Meets criteria ◕ Largely meets criteria ◑ Partly meets criteria ◔ Somewhat meets criteria ○ Does not meet criteria

Source: ACIL Allen.

Updating the retail margin over time

The assessment of the approaches to update the retail margin over time is summarised in Table ES 4.

If the retail margin is presented as a percentage, as recommended above, it does not need to be updated with changes in the CPI or wholesale electricity prices as changes in these parameters will be reflected in the costs to which the retail margin is applied. The only consideration then is whether the retail margin percentage should be updated with changes in the WACC or interest rates.

Our analysis indicates that the retail margin percentage is not particularly sensitive to changes in the WACC or interest rates. Depending on the magnitude of changes to the WACC or interest rate, the retail margin percentage could be adjusted in line with the changes to the WACC or interest rate, or the market offers could be re-benchmarked.

The transparency of updating the retail margin percentage is similar using either the WACC or interest rate. The use of an interest rate rather than a WACC is likely to be less contentious, but the WACC reflects changes to more underlying drivers than just considering the interest rate alone (for example, a change to the sector risk could be reflected in a higher equity beta when considering the WACC).

On the basis of this assessment, we recommend considering whether market conditions have changed sufficiently since the most recent benchmarking to justify an update to the retail margin percentage. If the change in market conditions is not material, we recommend minor adjustments to the retail margin percentage in line with changes to the interest rate. If there has been a material change in market conditions, we recommend refreshing the benchmarking.

Table ES 4 Summary of assessment of approaches to update the retail margin over time

	Transparency	Availability of current data	Responsiveness to changes in drivers	Responsiveness to changes in other cost components	Informs separation of efficient margin and competition component
Change in WACC	◕	◑	◕	N/A	N/A
Change in interest rates	◕	◕	◑	N/A	N/A
Change in CPI	●	●	○	N/A	N/A
Change in wholesale electricity prices	◕	◕	◔	N/A	N/A

Note: N/A Not applicable ● Meets criteria ◕ Largely meets criteria ◑ Partly meets criteria ◔ Somewhat meets criteria ○ Does not meet criteria

Source: ACIL Allen

Recommended approach

In summary, the approach that we recommend to estimating the retail margin is to:

- assess the level of a reasonable retail margin by benchmarking retail market offers
- present the retail margin as a percentage of the total costs, either inclusive or exclusive of the margin
- assess whether the retail margin needs to be updated since the last benchmarking exercise was undertaken based on changes in market conditions. If the change in market conditions is:
  - not material, we recommend minor adjustments to the retail margin percentage in line with changes to the interest rate, as indicated by the expected returns approach
  - material, we recommend refreshing the benchmarking.

Methodology for benchmarking retail market offers

In broad terms, we have benchmarked the retail margin for each type of retail tariff, for each customer type, for each distribution zone (in dollar terms) by:

1. Estimating the total retail bill at the commencement of DMO 5 for each retail market offer for each type of retail tariff, for each customer type, for each distribution zone. We excluded tariffs from the benchmarking exercise if they were duplicates, effective for a short period of time, applied to a specific group of customers, or applied to customers with consumption significantly greater than assumed in the analysis. We took into account various discounts and excluded outliers.

2. Deconstructing the total retail bill by deducting, for each retail market offer, the wholesale energy costs, environmental costs, network costs and retail operating costs estimated by the AER for the DMO 5 prices.
3. Benchmarking the resultant retail allowances for each type of retail tariff, for each customer type, for each distribution zone (15 tariffs in total). For each of these 15 tariffs, we calculated the average retail margin by retailer, and then calculated the market share weighted average and maximum retail margin across retailers.

Estimated reasonable margins

The average retail margins calculated vary significantly across retailers. This may be because the retailer's costs differ significantly from other retailers' costs or the average consumption of that retailers' customers is significantly different from other retailers.

The average retail margins calculated may be different to the retailers' actual margins. This may be because the retailer's costs differ from the costs assumed in the DMO 5 prices. These effects will net out if the same approach to determining the cost components for the DMO 5 prices is used to calculate the cost components for the DMO 6 prices. For example, if the costs were under (or over) estimated for the DMO 5 prices , then the retail margin estimated using this methodology will be over (or under) estimated. If the same approach is used to estimate the cost components for the DMO 6 prices, any error in those estimates will be netted out by an equal and opposite error in the retail margin estimate.

The weighted average and maximum retail margins that have been calculated are set out in Table ES 5. We have provided both the weighted average and weighted maximum to inform the AER's decisions on an efficient margin and potential competition allowance.

Table ES 5 Retailers' average retail margins, weighted average and weighted maximum

Jurisdiction	Distribution zone	Weighted average		Weighted maximum	
		% of retail bill	% of costs	% of retail bill	% of costs
Residential customers without controlled load					
NSW	Ausgrid	2.2%	2.6%	6.4%	7.1%
NSW	Endeavour	3.1%	3.4%	7.4%	8.2%
NSW	Essential Energy	4.2%	4.6%	7.5%	8.3%
Qld	Energex	2.5%	2.7%	7.9%	8.6%
SA	SA Power Networks	0.7%	0.8%	6.1%	6.6%
Residential customers with controlled load					
NSW	Ausgrid	2.9%	3.2%	6.4%	7.1%
NSW	Endeavour	2.7%	3.0%	7.1%	8.0%
NSW	Essential Energy	4.1%	4.5%	7.4%	8.2%
Qld	Energex	5.0%	5.4%	9.9%	11.1%
SA	SA Power Networks	1.5%	1.6%	7.1%	7.7%

Jurisdiction	Distribution zone	Weighted average		Weighted maximum	
		% of retail bill	% of costs	% of retail bill	% of costs
Small business customers without controlled load					
NSW	Ausgrid	16.0%	19.6%	18.1%	22.5%
NSW	Endeavour	12.4%	14.5%	14.5%	17.3%
NSW	Essential Energy	14.4%	17.0%	16.2%	19.6%
Qld	Energex	13.0%	15.3%	16.5%	20.3%
SA	SA Power Networks	10.7%	12.3%	13.4%	15.7%

Source: ACIL Allen

The AER has consulted on a number of potential changes to its methodology for estimating the wholesale energy costs for the DMO 6 prices.[3] If the methodology for estimating the wholesale energy costs for the DMO 6 prices changes from the methodology for estimating the wholesale energy costs for the DMO 5 prices, then the retail margins would need to be adjusted from those derived using DMO 5 cost components.

[3] Australian Energy Regulator, *Default market offer prices 2024-25, Issues paper*, October 2023, pages 9-15.

1 Introduction

Retail electricity prices are currently regulated or set for small electricity customers, through a public process, by the:

- Australian Energy Regulator (AER) for customers in New South Wales, south-east Queensland and South Australia
- Essential Services Commission (ESC) for customers in Victoria
- Queensland Competition Authority (QCA) for customers in regional Queensland
- Independent Competition and Regulatory Commission (ICRC) for customers in the ACT
- Office of the Tasmanian Economic Regulator (OTTER) for customers in Tasmania.

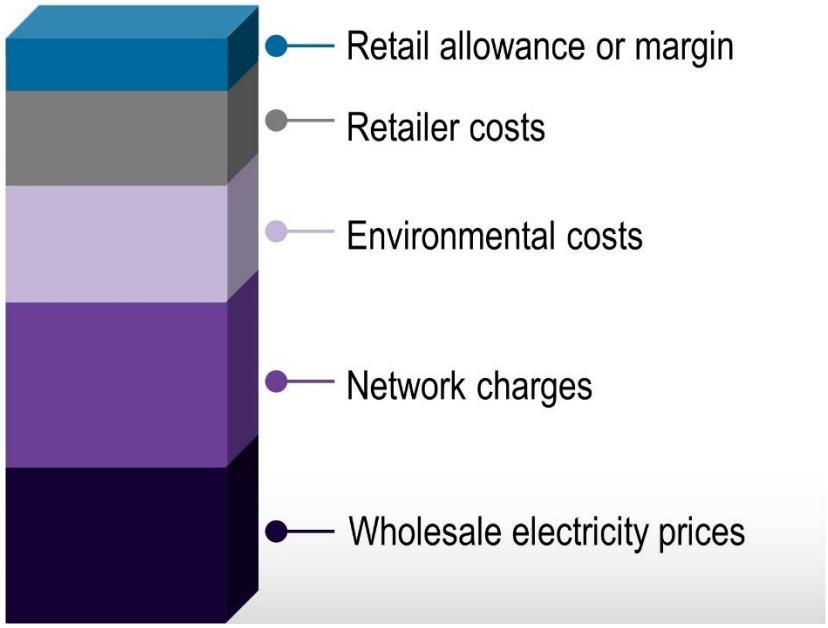
Retail electricity prices were previously regulated for small electricity customers by the:

- Independent Pricing and Regulatory Tribunal (IPART) in New South Wales
- Essential Services Commission of South Australia.

All regulators have taken a similar approach to regulating retail electricity prices by using a "building block" approach. As illustrated in Figure 1.1, the "building blocks" comprise:

- wholesale electricity prices, which are highly volatile and are projected at the time of the determination
- network charges, which are regulated and known at the time of the determination
- environmental costs, which are projected at the time of the determination
- retailer costs, which may include customer acquisition and retention costs (CARC)
- retail allowance or margin.

Figure 1.1 Retail electricity price "building blocks"



Source: ACIL Allen.

1.1 Best practice methodology for estimating the retail margin

In 2013 the Australian Energy Market Commission (AEMC) published advice on a best practice methodology for setting regulated retail electricity prices for small electricity customers.

The AEMC identified three methods to estimate the retail margin:

- an **expected returns** approach, which estimates the expected cash flows for a retailer and the systematic risk associated with these flows, and then determines a margin that compensates investors for this risk
- a **bottom-up** approach, which involves estimating a retailer's asset base and its cost of capital, and then determines the earnings and revenue which would allow the retailer to earn an expected return equal to its estimated cost of capital
- a **benchmarking** approach, which involves examining the reported margins, either from publicly listed companies and/or other regulatory decisions.[4]

The AEMC considered that no one method can be relied upon to estimate a retail margin.

The expected returns approach "places high reliance on the economic theory of the Capital Asset Pricing Model and an estimated relationship between profitability of electricity retailers and economic conditions."[5]

The bottom-up approach relies on market data to estimate a retailer's asset base, which may be difficult as retailers typically have small tangible asset bases. In 2013, IPART's bottom-up estimate was derived from "just 12 transactions over 14 years".[6]

[4] Australian Energy Market Commission, *Advice on best practice retail price methodology*, *Final report*, 27 September 2013, pp. 65-66.

[5] SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, 4 June 2013, p. 2.

[6] Ibid, p. 3.

In 2013, it was difficult to identify direct comparators for benchmarking purposes. Accordingly, IPART derived an estimate of the retail margin from a sample of listed retailers in industries other than electricity. The sample included retailers in Australia, Canada, New Zealand, UK and USA in the following industry segments – drug retailers, food retail and wholesale, apparel retailers, broadline retailers, home improvements, and specialty retailers. While this approach allowed analysis for a large sample, it was "limited by lack of comparability".[7]

The AEMC therefore recommended that an estimate of the retail margin should be guided by a retail margin objective:

> *The efficient margin is to be commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to the retailer in respect of the provision of regulated electricity services.*

The AEMC was of the view that the decision should be guided by the following principles:

- a range of estimation methods, financial models, market data and other evidence should be considered
- the retail margin should be capable of responding to changes in market conditions
- any interrelationships between estimates of financial parameters that are relevant to the estimates of the return on equity and return on debt should be considered.

1.2 The retail electricity market is now more competitive

The retail electricity market was just opening to competition when the independent economic regulators commenced regulating retail electricity prices and the AEMC provided its advice on a best practice methodology. Accordingly, there was insufficient data available to benchmark the retail margins that were being offered by energy retailers in a competitive market. The objective of the approaches that were used to estimate the retail margins was to "infer margins which are **likely to prevail in a competitive market"**[8] (emphasis added).

However, with the development of a more competitive retail electricity market, retail margins can now be benchmarked in a way that could not be done 10 years ago.

1.3 Estimating the retail margin for 2024-25

The AER is currently determining the default market offer (DMO) prices for small electricity customers in New South Wales, South Australia and south-east Queensland for 2024-25 (DMO 6). It is currently considering alternative approaches to setting the DMO price, including the retail allowance (or margin).

The AER changed its approach to determining the retail allowance for the DMO 4 prices in 2022-23. In its DMO 4 determination, the AER separately determined the retail operating costs and a retail allowance. It calculated the retail allowance as a percentage of the DMO price and introduced a glide path (up or down) to a retail allowance of 10% for residential customers and 15% for small business customers. In its DMO 5 determination for 2023-24, it made some adjustments to the glide path following significant increases in the wholesale energy component.

[7] Ibid, p. 2.

[8] Ibid, p. 2.

As part of the AER's DMO 6 determination for 2024-25, it is questioning its approach to determining the retail allowance, noting that there is a balance between setting a retail allowance that is too high or too low:

— a higher retail allowance further incentivises competition and consumer engagement in the market but reduces the pricing protections in the DMO

— a lower retail allowance further protects consumers from unreasonably high prices but eventually reaches a point where retailers cannot compete.

Submissions to the AER's Issues Paper on the DMO 6 prices[9] have identified, for example, that there has been:

— a significant decline in the retailers' earnings before interest, tax, depreciation and amortisation (EBITDA) from $145 in 2016-17 to $35 in 2021-22[10]

— an unprecedented number of retailer exits from the retail electricity market

— a slower rate at which smaller retailers increase market share

— a decline in the spread of market offer prices.[11]

The AER has identified several potential options for estimating the retail allowance in the DMO 6 prices, including:

- *Maintaining the current approach of calculating the retail allowance as part of the DMO price.*
- *Setting the retail allowance as a fixed dollar amount.*
- *Separating the retail allowance into a percentage-based efficient margin component and a fixed competition allowance component.*[12]

Additionally, the AER has noted that:

— the efficient margin could be calculated in a similar way to the approaches used by OTTER, ICRC and ESC

— the competition allowance could be determined according to retail cost data provided by large and small retailers to the ACCC or some other data source.[13]

The AER engaged ACIL Allen to provide expert research, analysis, advice and recommendations on methodologies to determine reasonable electricity retail margins to include in the 15 DMO prices – 3 different prices[14] in each of 5 distribution areas[15] – for 2024-25.

1.4 Purpose and structure of this report

The purpose of this report is to review retail margin methodologies and values currently being used by other regulators, develop options and recommendations on the methodology for estimating a

[9] Australian Energy Regulator, *Default market offer prices 2024-25, Issues paper*, October 2023.

[10] Australian Energy Council, Submission on the AER's DMO 6 Issues Paper, 3 November 2023.

[11] Energy Australia, Submission on the AER's DMO 6 Issues Paper, 3 November 2023.

[12] Australian Energy Regulator, *Default market offer prices 2024-25, Issues paper*, October 2023, pp. 23-24.

[13] Ibid, p. 24.

[14] Residential without controlled load, residential with controlled load and small business without controlled load.

[15] Ausgrid, Endeavour Energy, Essential Energy, Energex and SA Power Networks.

reasonable margin, and present the value of a reasonable margin for the DMO 6 prices estimated using the recommended methodology. The rest of this report is structured as follows:

— Chapter 2 provides an overview of the retail margin methodologies and values currently being used by other regulators when determining or setting retail electricity prices.
— Chapter 3 identifies alternative approaches that could be adopted by the AER to estimate a reasonable retail margin and assesses each of these methodologies.
— Chapter 4 recommends an approach to be adopted by the AER in its DMO 6 determination.
— Chapter 5 describes in more detail the methodology for estimating the retail margin using the recommended approach.
— Chapter 6 presents the estimated retail margin using the recommended approach.

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Methodologies adopted in other jurisdictions 2

This chapter provides an overview of the retail margin methodologies and values currently being used by other regulators when determining or setting retail electricity prices, including the relevant contextual information.

Where the retail electricity tariffs are determined by aggregating each of the separately estimated building block components, it is important to note the methodology that is used to calculate each of those components. If the methodology used by a regulator for estimating the other cost components produces higher (or lower) estimates than other regulators, the retail margin in that jurisdiction may be lower (or higher).

We will also need to take into consideration the level of competition in that market, and the objective for regulating retail tariffs. This will influence whether there are any allowances related to competition included in the cost components and the retail margin.

2.1 Victoria

The Victorian electricity market has been the most active in Australia since the commencement of full retail competition in 2002. Retail electricity prices were deregulated from 1 January 2009, subject to ongoing price monitoring. However, following a review of the Victorian electricity and gas retail markets in 2017, the Victorian Government legislated the annual determination of a Victorian Default Offer (VDO) by the ESC. This was in response to concerns that competition had added additional costs to the market that had not been offset with cost reductions or other benefits. As an essential service, it was considered imperative that all consumers, including low income and vulnerable customers, have access to affordable energy.[16]

The rate at which customers switch retailers in Victoria is currently the highest of any jurisdiction in Australia. The annualised transfer rate over the 12-month period from December 2022 to November 2023 ranged from 16% in January 2023 to 37% in July 2023.[17] As at 2 January 2024, the ESC has issued 52 retail electricity licences. Of these, around 27 supply small electricity customers.[18]

[16] Independent Review Panel, *Independent Review Into the Electricity & Gas Retail Markets in Victoria*, August 2017, pp ix-x.

[17] AEMO, *National Electricity Market, Monthly Retail Transfer Statistics*.

[18] Based on results from the Victorian Energy Compare website on 2 January 2024.

2.1.1 The Victorian Default Offer

The ESC determines the VDO for small Victorian electricity customers[19] in accordance with a pricing order made by the Government under the *Electricity Industry Act 2000*. The objective of the VDO is to:

> *… provide a simple, trusted and reasonably priced electricity option that safeguards consumers unwilling or unable to engage in the electricity retail market.*[20]

The VDO sets a cap on standing offer electricity prices and provides a reference point for comparing offers.

The Order requires that the ESC must determine the VDO using the standard "building blocks" approach[21], based on the **efficient** costs of the sale of electricity by a retailer.[22] The VDO is to include modest costs of customer acquisition[23] and retention and exclude headroom.[24] Headroom is defined in the Order as "an allowance that does not reflect an efficient cost borne by firms operating in the market".[25]

A VDO is determined for customers in each of the five Victorian electricity distribution areas. The VDOs that are determined, and the assumed consumption for each, are set out in Table 2.1.

Table 2.1 VDOs determined by the ESC

Customer type	Tariff type	Electricity usage
Residential	Flat tariff	4,000 kWh per annum
	Flat tariff with controlled load tariff	4,000 kWh per annum plus 2,000 kWh per annum controlled load
	Two period time of use tariff	4,000 kWh per annum Peak period – 33% Off-peak period – 67%
Small business	Flat tariff	20,000 kWh per annum
	Two period time of use tariff	20,000 kWh per annum Peak period – 49% Off-peak period – 51%

Source: ESC, Victorian Default Offer 2023-24, Final Decision Paper, 25 May 2023, pages 59-60

2.1.2 Building blocks approach

The approach to calculating each of the building blocks is summarised in Table 2.2, with the values for 2023-24.

[19] Residential customers and business customers consuming less than 40 MWh per annum.

[20] Victorian Government Gazette, No. S208, 30 May 2019, clause 3.

[21] Clause 12(4).

[22] Clause 12(3).

[23] Clause 12(4)(d).

[24] Clause 12(10).

[25] Clause 4(1).

Table 2.2 VDO building blocks, 2023-24

Building block	Approach	Value
Wholesale electricity costs	Trade-weighted electricity contract prices from ASX Energy over the last 12 months, based on an efficient contracting position estimated using Frontier Economics' STRIKE model with peak swap contracts removed. The load is from the median simulated year when years ranked by wholesale energy cost. A volatility adjustment is made for working capital to fund spot market purchases.	Residential customers – between $136.36 and $155.07 per MWh, plus volatility allowance of between $0.63 and $0.77 per MWh Small business customers – between $124.84 and $129.75 per MWh, plus volatility allowance of between $0.57 and $0.67 per MWh
Network costs (including metering costs)	Network tariffs approved by the AER. Metering charges – weighted average of metering costs approved by the AER.	Varies by customer, tariff and electricity distribution area Between $46.96 and $81.10 per customer (no additional cost for controlled load)
Environmental costs	Public information on costs of: – Large-scale Renewable Energy Target, including true-up for 2022-23 – Small-scale Renewable Energy Scheme, including true-up for 2022-23 – Victorian Energy Upgrades program – Social cost of carbon (minimum feed-in tariff).	 – $10.40 per MWh plus $0.07 per MWh true-up – $6.86 per MWh minus $1.49 per MWh true-up – $11.18 per MWh – $16.95 per customer
Retail costs	Retail operating costs – customer-weighted cost data gathered from retailers for the 2021-22 financial year indexed by CPI. The ESC will continue to collect data to update the cost benchmark. Customer acquisition and retention costs – based on a 2013-14 benchmark of $38 from the ACCC's retail and electricity pricing inquiry, adjusted for CPI. This is lower than the customer weighted cost data gathered from retailers for 2021-22 ($54).	$132.03 per customer excluding GST $43.89 per customer Note: No retail costs for controlled load
Other costs	Latest market information on: – market intervention costs – AEMO fees – ancillary charges – Reserve and Emergency Reserve Trader costs – ESC licence fees – 2022-23 fees indexed by CPI.	 – $0.80 per MWh – $0.40 per MWh plus $8.42 per customer – $0.48 per MWh – no costs – $2.26 per customer.

Building block	Approach	Value
Network losses	Distribution loss factors – as published by the electricity distributors. Short sub-transmission factor for CitiPower, Jemena and United Energy, and weighted average of short and long sub-transmission factor for Powercor and AusNet Services.	Between 4.50% and 8.54% (applied to wholesale electricity costs, environmental costs, other than the social cost of carbon)
	Transmission loss factors – simple average of marginal loss factors for relevant regional reference nodes published by AEMO.	
Retail margin	Reasonable margin – refer section 2.1.3.	5.3% applied to the cost stack (excluding the margin)
	Additional margin / headroom – Order prohibits inclusion.	0%

Source: ESC, Victorian Default Offer 2023-24, Final Decision Paper, 25 May 2023.

The key points to note are:

1. The Victorian electricity market is competitive for small electricity customers.
2. The wholesale electricity costs are for a median simulated year plus a small volatility allowance.
3. The retail operating costs are estimated based on the retailers' reported costs plus CARC based on a 2013-24 benchmark.
4. In 2023-24, the retail margin is 5.3% (applied to the cost stack excluding the margin).

2.1.3 Retail margin

Since the VDO commenced in 2019, the ESC has set the retail margin based on advice provided by Frontier Economics (Frontier).[26] Frontier estimated the retail margin using a benchmarking approach and an expected returns approach.

Prior to 2023-24, the ESC determined the retail margin to be 5.7% of the cost stack (excluding the margin) based on the benchmarking of recent decisions made by other Australian energy regulators. It noted that this margin was comparable to, and within the feasible range of, the margin estimated by Frontier using the expected returns approach.[27]

The ESC reduced the retail margin from 5.7% to 5.3% in its 2023-24 determination.

Further information on Frontier's benchmarking approach and expected returns approach for the ESC, and the ESC's final determination for 2023-24 are provided in the following sections.

[26] Frontier Economics, *Retail Costs and Margin, A report for the Essential Services Commission*, 24 April 2019.

[27] ESC, *Victorian Default Offer to apply from 1 July 2019, Advice to Victorian Government*, 3 May 2019, p. 84.

Frontier's benchmarking approach for the ESC

Frontier benchmarked the decisions made by the:

— QCA in 2015

— ICRC from 2014 to 2016

— OTTER in 2013 and 2016

— IPART in 2013.

Frontier found that, in those decisions, the QCA, ICRC and OTTER set a retail margin of 5.7%, consistent with IPART's 2013 decision (which is discussed further below). IPART's 2013 allowance of 5.7% was chosen from within a range for the retail margin of 5.3% to 6.1% (refer EBITDA results in Table 2.3).

We note that, while the retail margin appears to be the same across each of these regulatory decisions, the way it is applied varies by regulator and by year. While some regulators in some years apply the retail margin to the cost stack (excluding the margin), for others the retail margin is a percentage of the total costs (including the margin). If the retail margin is assumed to be 5.7% of the total costs (including the margin), a margin of 6.04% needs to be applied to the cost stack (excluding the margin). Throughout this report, we have sought to clarify which approach has been used in each regulatory decision. Where not specified the retail margin is the margin applied to the cost stack (excluding the margin).

IPART's 2013 decision

IPART engaged SFG Consulting to estimate the retail margin for its 2013 determination on regulated retail prices. The objective of SFG Consulting's analysis was to "infer margins which are likely to prevail in a competitive market".[28]

SFG Consulting estimated the retail margin by adopting a simple average of the retail margin estimated using the following three approaches:

— The expected returns approach, which estimates a weighted average cost of capital required so that the "expected cash flows compensate investors for the systematic risk of those cash flows".[29] It noted that this approach "places high reliance on the economic theory of the Capital Asset Pricing Model and an estimated relationship between profitability of electricity retailers and economic conditions".[30]

— A bottom-up approach, which relies upon an assumed investment base and cost estimates, and provides estimates of earnings and revenue which allow the retailer to earn an expected return equal to its estimated cost of capital. In 2013, the estimate was derived from "just 12 transactions over 14 years".[31]

— Estimating the margin earned by listed retailers in industries other than electricity. The sample included retailers in Australia, Canada, New Zealand, UK and USA in the following industry segments – drug retailers, food retail and wholesale, apparel retailers, broadline retailers, home improvements, and specialty retailers. While this approach allowed analysis for a large sample, it was "limited by lack of comparability".[32]

[28] IPART, *Review of regulated retail prices and charges for electricity, From 1 July 2013 to 30 June 2016*, June 2013, p. 2.

[29] SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales,* 4 June 2013, p. 4.

[30] Ibid, p. 2.

[31] Ibid, p.3.

[32] Ibid, p. 2.

The results from SFG Consulting's analysis are provided in Table 2.3, noting that the retail margin (EBITDA) is presented as a percentage of sales that is, as a percentage of the costs including the margin, rather than as a markup applied to the cost stack excluding the margin.

Table 2.3 Estimated retail margin, 2013

Approach	EBIT (% of sales)			EBITDA (% of sales)		
	Low	Mid	High	Low	Mid	High
Expected returns	2.7	3.1	3.6	3.9	4.3	4.8
Benchmarking	5.1	5.2	5.4	6.3	6.4	6.6
Bottom up	4.4	4.9	5.7	5.6	6.2	7.0
Average	**4.1**	**4.4**	**4.9**	**5.3**	**5.7**	**6.1**

Source: SFG Consulting, Estimation of the regulated profit margin for electricity retailers in New South Wales, 4 June 2013, Table 1 and pp 5-6.

The retail margin estimated using the expected returns approach was based on the mid-point cost of capital assumptions provided by IPART, and SFG Consulting's low and high assumptions. These are provided in Table 2.4.

Table 2.4 Cost of capital assumptions used by SFG Consulting for IPART

Parameter	Low	Mid-point	High
Risk-free rate (%)	4.20	4.20	4.20
Market risk premium (%)	6.14	6.64	7.14
Equity beta	0.90	1.00	1.10
Gearing (%)	25	20	15
Debt premium (%)	1.72	2.22	2.72
Inflation (%)	2.26	2.76	3.26
After tax cost of equity (%)	9.73	10.84	12.05
Cost of debt (%)	5.92	6.42	6.92
Vanilla WACC (%)	8.78	9.96	11.28
Value of imputation credits (gamma)	0.35	0.25	0.15
Tax rate (%)	30	30	30

Source: SFG Consulting, Estimation of the regulated profit margin for electricity retailers in New South Wales, 4 June 2013, Table 2.

While SFG Consulting estimated the retail margin as a percentage of sales (including the margin), IPART (and other regulators) applied the mid-point EBITDA estimate of 5.7% to the cost stack excluding the margin. This equates to 5.4% of sales (including the margin).

Frontier's expected returns approach for the ESC

As identified by the ESC, the expected returns approach undertaken by Frontier in 2019 involved 5 main steps:

1. *Derive an estimate of the benchmark Weighted Average Cost of Capital (WACC) for a notional retailer.*
2. *Forecast the future cash flows and returns of the notional retailer under different economic conditions.*
3. *Forecast the future returns on the market in different states of the market.*

4. *Use the forecast returns of the notional retailer and the market to compute the implied systematic risk of the notional retailer.*
5. *Solve for the retail margin that equalises the systematic risk implied by the retailer's forecast cash flows and the systematic risk associated with the benchmark WACC.*[33]

The ESC specified the cost of capital assumptions that were to be used by Frontier in 2019 to estimate the retail margin for the VDO (refer Table 2.5).

Table 2.5 Cost of capital assumptions used by Frontier for ESC

Parameter	Low	Mid-point	High
Risk-free rate (%)	2.50	2.81	3.12
Market risk premium (%)	5.75	6.00	6.25
Equity beta	1.00	1.00	1.00
Gearing (%)	20	20	20
Debt premium (%)	2.0	2.5	3.0
Inflation (%)	2.5	2.5	2.5
After tax cost of equity (%)	8.25	8.81	9.37
Cost of debt (%)	4.50	5.31	6.12
Vanilla WACC (%)	6.07	6.55	7.03
Value of imputation credits (gamma)	0.35	0.25	0.15

Source: Frontier Economics, Retail Costs and Margin, A report for the Essential Services Commission*, 24 April 2019, Table 1.*

The risk-free rate that the ESC required Frontier to use in 2019 was significantly lower than that used by SFG Consulting for IPART in 2013. Despite the lower WACC, the retail margin estimated by Frontier in 2019 using the expected returns approach was significantly higher than estimated by SFG Consulting in 2013, as summarised in Table 2.6.

Table 2.6 Comparison of retail margin estimated using the expected returns approach

	Low	Mid-point	High
Frontier for ESC, 2019	4.8	5.4	6.1
SFG Consulting for IPART, 2013	3.9	4.3	4.8

Note: Of the 81 potential outcomes modelled, the low point represents the 33rd percentile, the mid-point represents the 50th percentile, and the high point represents the 67th percentile. The 81 potential outcomes are driven by 3 levels of WACC, 3 levels of standard deviation of market returns, 3 levels of non-volume related costs and 3 levels of standard deviation of GDP growth.

Source: Frontier Economics, Retail Costs and Margin, A report for the Essential Services Commission*, 24 April 2019, Table 3; SFG Consulting, Estimation of the regulated profit margin for electricity retailers in New South Wales, 4 June 2013, Table 1 and pp 9-11.*

The higher margin estimated by Frontier is driven by changes in other parameters that are used to estimate the retail margin using the expected returns approach (refer Table 2.7). These are:

— Standard deviation of market returns – which is an estimate of how cash flows and returns will change in periods of above- and below-market conditions. Sensitivity analysis undertaken by Frontier (refer Table 2.8) indicates that, as the market volatility decreases, the retail margin increases. Frontier assumed lower market volatility than SFG Consulting.

— Non-volume related costs (as a share of total costs) – as the proportion of fixed costs in a retailer's cost structure increases, so does the volatility of its returns. Sensitivity analysis undertaken by Frontier (refer Table 2.8) indicates that, as the non-volume related share of

[33] Essential Services Commission, *Victorian Default Offer to apply from 1 July 2019, Advice to Victorian Government*, 3 May 2019, p. 81.

costs increases, the retail margin increases. Frontier assumed a higher proportion of non-volume related costs than SFG Consulting.

— Standard deviation of GDP growth – which is the assumed change in volume as economic conditions change. Sensitivity analysis undertaken by Frontier (refer Table 2.8) indicates that, as the GDP volatility increases, the retail margin increases. Frontier assumed lower GDP volatility than SFG Consulting.

Table 2.7 Comparison of parameters used to estimate the retail margin using the expected returns approach

	Low	Mid-point	High
Standard deviation of market returns			
Frontier for ESC, 2019	12%	17%	22%
SFG Consulting for IPART, 2013	8%	19%	30%
Non-volume-related costs (share of total costs)			
Frontier for ESC, 2019	25%	30%	35%
SFG Consulting for IPART, 2013	15%	20%	25%
Standard deviation of GDP growth			
Frontier for ESC, 2019	1.2%	1.7%	2.2%
SFG Consulting for IPART, 2013	1.5%	2.0%	2.5%

Source: Frontier Economics, Retail Costs and Margin, A report for the Essential Services Commission*, 24 April 2019, Table 2; SFG Consulting, Estimation of the regulated profit margin for electricity retailers in New South Wales, 4 June 2013, Table 1 and pp 5-6.*

The sensitivity of the retail margin to changes in these parameters, as well as to changes in the rate of return, are set out in Table 2.8. The retail margin is relatively insensitive to changes in the WACC, with all other variables kept at the base value, and more sensitive to changes in the other parameters.

Table 2.8 Retail margin using the expected returns approach, sensitivity analysis

Parameter varied	Low	Mid-point	High
WACC	5.3%	5.4%	5.5%
Standard deviation of market returns	7.4%	5.4%	4.4%
Non-volume-related costs (share of total costs)	4.4%	5.4%	6.6%
Standard deviation of GDP growth	4.9%	5.4%	6.0%

Note: The sensitivity analysis is based on changing one parameter only, with the other three parameters held constant.

Source: Frontier Economics, Retail Costs and Margin, A report for the Essential Services Commission*, 24 April 2019, Table 4.*

ESC's final determination for 2023-24

In its final decision on the VDO prices for 2023-24, the ESC reduced the retail margin from 5.7% (in the draft determination) to 5.3% on the following basis:

— since 2020, most retailers have offered market offers below, and sometimes well below the VDO

— retail margins set by other regulators have decreased (refer Table 2.9)

— additional retailers have sought to enter the market

— 5.3% is within the range of retail margins produced by the expected returns approach

— on average, retailers' reported margins have decreased.[34]

Table 2.9 ESC comparison of retail margins across time

Regulator	Retail margin in 2019	Margin for 2022-23
Australian Energy Regulator	N/A	6% - 25%
Independent Competition and Regulatory Commission	5.7%	5.3%
Office of the Tasmanian Economic Regulator	5.7%	5.25%
Queensland Competition Authority	5.7%	3.9%

Source: ESC, Victorian Default Offer 2023-24, Final Decision Paper, 25 May 2023, Table 3

Furrher information on the retail margins determined by the ICRC is provided in section 2.2, the OTTER in section 2.4 and the QCA in section 2.3.

2.1.4 Consultation on changes to the ESC's retail margin methodology

The ESC is currently consulting on its approach to setting the retail margin for its 2024-25 determination of the VDO prices. It is seeking suggestions from stakeholders on alternative approaches, noting previous submissions that commented on the circularity if regulators continue to use benchmarks set by other regulators.[35]

A number of submissions did not support the benchmarking of retail margins against other regulatory decisions due to the higher risks that retailers face in the Victorian market compared to other jurisdictions and the circularity of the decisions.

For example, Alinta Energy noted that the jurisdictions against which the ESC benchmarks retail margins (regional Queensland, the ACT and Tasmania) do not offer (effective) choice of retailer, and retailers do not face the risk of cascading retailer failure.[36] Momentum Energy noted that it is not fair or relevant to continually benchmark retail margins between jurisdictions that have differing underlying market structures.[37] AGL, Origin Energy and Shell Energy also commented on the lower levels of risk in other jurisdictions.

[34] Essential Services Commission, *Victorian Default Offer 2023-24, Final Decision Paper*, 25 May 2023, p. 48.

[35] Essential Services Commission, *2024-25 Victoria Default Offer: Request for Comment*, 2 November 2023, p. 5.

[36] Alinta Energy, *Submission to the ESC's 2024-25 Victoria Default Offer: Request for Comment,* 14 December 2023.

[37] Momentum Energy, *Submission to the ESC's 2024-25 Victoria Default Offer: Request for Comment,* 14 December 2023.

The Consumer Law Action Centre noted that relying on other regulators' historic decision-making, which may rely on other prior decisions, could simply perpetuate inefficiencies contained in prior determinations.[38]

Stakeholders requested greater transparency in setting the retail margin, noting the lack of transparency in the ESC's determination for 2023-24 in which the margin was reduced from 5.7% in the draft determination to 5.3% in the final determination. The Australian Energy Council was of the view that the ESC should be more explicit in terms of the EBITDA they are targeting and how they select the margin from within a range.[39]

A variety of approaches were suggested for determining the retail margin:

- First Energy, the Australian Energy Council, Energy Australia, Globird Energy and Simply Energy commented on the increase in interest rates, which should be reflected in the retail margin.
- Energy Australia was of the view that the expected returns approach should be re-run, while Origin Energy supported using an expected returns approach validated with market-based data. First Energy noted that there needs to be caution using market-based data as some market prices may be loss leading to gain market share.
- Consumer Law Action Centre indicated a preference for bottom-up modelling, Momenturn Energy submitted that a robust and constructive review should be undertaken at distinct timings, for example, 5 years, and Simply Energy indicated that a fixed percentage should be set for a period of between 3 and 5 years.
- AGL, Alinta Energy, the Australian Energy Council, Origin Energy, Shell Energy and Simply Energy were of the view that the retail margin should be restored to 5.7%.

2.2 The ACT

Despite the introduction of retail electricity competition in the ACT on 1 July 2003, the ICRC has continued to regulate retail electricity standing offer prices for small customers in the ACT. As a consequence, the ACT electricity market for small electricity customers is not effectively competitive, dominated by the incumbent retailer, ActewAGL.[40] In the March quarter 2023, ActewAGL had 74% of the market for residential customers declining from 88% in 2017-18.[41]

The ACT Government issues a terms of reference to the ICRC every 3 or 4 years to review regulated retail electricity prices for small electricity customers.[42] The ICRC issues a Price Direction

[38] Consumer Action Law Centre, *Submission to the ESC's 2024-25 Victoria Default Offer: Request for Comment,* 14 December 2023.

[39] Australian Energy Council, *Submission to the ESC's 2024-25 Victoria Default Offer: Request for Comment,* 14 December 2023.

[40] Australian Energy Regulator, *State of the Energy Market 2023* p. 245.

[41] Independent Competition and Regulatory Commission, *Standing offer prices for the supply of electricity to small customers from 1 July 2024, Issues Paper, Report 5 of 2023*, August 2023, p. 6.

[42] Small customers in the ACT are those that consume less than 100 MWh per annum.

in accordance with the terms of reference and the *Independent Competition and Regulatory Commission Act 1997* (the ICRC Act). The Price Direction includes:

- the maximum (or minimum) average percentage increase (or decrease) in retail electricity prices in the first year
- the annual weighted average price change for the remaining years in the regulatory period
- the constraints applying to the change to any particular tariff
- arrangements for passing through defined costs (currently for a regulatory change or tax change event).

ActewAGL applies the price control formulae to its suite of regulated standing offer tariffs.

The ICRC's objective, as set out in section 7 of the ICRC Act, is to promote effective competition in the interest of consumers while facilitating an appropriate balance between economic efficiency, environmental and social considerations. When making price directions, section 19L of the ICRC Act requires it to consider the interests of consumers in promoting efficient investment in, and operation of, regulated services into the future.

The ICRC balances the objectives and requirements of the ICRC Act by ensuring that the regulated prices for electricity services are set at no more than the level of prudent and efficient costs of providing those services.

The ICRC uses the standard building block approach to determine the average retail electricity price in the first year with the Price Direction setting out how these building blocks will vary in subsequent years.

2.2.1 Retail electricity prices

In June 2020, the ICRC issued a Price Direction for the 2020-24 period. The approach to calculating each of the building blocks is summarised in Table 2.10, with the values for 2023-24.

Table 2.10 Building blocks, ACT, 2023-24

Building block	Approach	Value
Wholesale electricity costs	23 month average of forward prices from ASX market data, ending 30 April, based on a prudent mix of base swap, peak swap and base cap contracts plus a 5% forward price margin. Use 5 calendar years of load and spot price data from AEMO, updated annually.	$159.62 per MWh
	Volatility allowance – simple average of ESC's volatility allowance for residential customers and for small business customers, and then weighted average based on ACT demand by residential and small business customers.	Volatility allowance - $0.302 per MWh in each year of regulatory period
Network costs (including metering costs)	Network tariffs – as approved by the AER for standard customer load as advised annually by ActewAGL.	$78.21 per MWh
	Metering charges – as approved by the AER.	$6.59 per MWh
	ACT Government scheme costs – as approved by the AER.	Rebate of $15.23 per MWh

Building block	Approach	Value
Environmental costs	Public information on costs of national green schemes:	
	– Large-scale Renewable Energy Target, including true-up for 2022-23	– $9.29 per MWh
	– Small-scale Renewable Energy Scheme	– $6.84 per MWh
	– True-up for both schemes for 2022-23.	– minus $1.07 per MWh
	Energy efficiency improvement scheme costs – based on annual data provided by ActewAGL.	– $2.90 per MWh
Retail costs	Retail operating costs – benchmark retail operating costs as determined by IPART in 2013, indexed annually by CPI. Converted to $ per MWh based on customer numbers and energy usage, which are updated annually.	$143.00 per customer or $17.71 per MWh, which assumes standard usage of 8,075 kWh per annum
	Customer acquisition and retention costs – retail operating cost includes a reasonable allowance.	Included above
	5-minute settlement, global settlement and customer switching costs – based on annual data provided by ActewAGL.	$0.93 per MWh
	Smart meter costs – based on annual data provided by ActewAGL.	$3.01 per MWh
Other costs	Latest market information on AEMO fees and ancillary charges for 2020-21, indexed by CPI during regulatory period.	$1.41 per MWh
	Market intervention costs – based on annual data provided by ActewAGL.	$3.01 per MWh
Network losses	As published by AEMO.	$0.17 per MWh (applied to wholesale electricity costs, national environmental costs and NEM fees)
Retail margin	Reasonable margin – refer section 2.2.2.	5.6% applied to cost stack
	Additional margin / headroom – nil.	0%

Source: ICRC, Retail electricity price investigation, Final report, *Report 9 of 2020, June 2020; ICRC, Retail electricity price recalibration 2023-24: standing offer prices for the supply of electricity to small customers, Report 4 of 2023, June 2023.*

The key points to note are:

1. The ACT electricity market is not effectively competitive for small electricity customers.
2. The wholesale electricity costs are for a median simulated year plus a small volatility allowance.
3. The retail operating costs are estimated based on a 2013 benchmark, indexed by CPI. They include a reasonable allowance for CARC.
4. In 2023-24, the retail margin is 5.6% (applied to the cost stack excluding the margin).

2.2.2 Retail margin

In its draft report on the regulated retail prices for the 2014-17 period, the ICRC determined a retail margin of 5.7% based on the 2013 research undertaken by SFG Consulting for IPART (refer section 2.1.3).[43]

In its submission on the draft report, ActewAGL noted that the 5.7% margin as estimated by SFG Consulting was presented as a percentage of sales (including the margin) rather than a percentage applied to the cost stack (excluding the margin). Accordingly, in its final report, ICRC increased the retail margin to 6.04% so that it was consistent with the retail margin estimated by SFG Consulting.[44]

The ICRC reduced the retail margin to 5.3% for the 2017-20 period, which was at the low end of the range estimated by SFG Consulting (while noting this was a percentage of sales rather than a percentage applied to the cost stack) (refer Table 2.6). The ICRC was of the view that the retail margin in percentage terms should be reduced because of the large increase in wholesale energy costs which, all else being equal, would increase the retail margin in dollar terms.[45]

The retail margin was increased from 5.3% to 5.6% for the 2020-24 period. The ICRC noted that a retail margin of 5.3% was consistent with, but at the low end of, the industry benchmarks and bad debt risks in the ACT market are likely to be lower than in other Australian state markets. However, an increase in the retail margin of around 0.7 percentage points was warranted with a declining trend in wholesale electricity prices and a decrease of 0.4 percentage points was warranted by the decrease in the interest rates since the SFG Consulting analysis was undertaken.[46] The net result was an increase of 0.3 percentage points.

It is also noted that a retail margin of 5.6% (applied to the cost stack excluding the margin) is equivalent to 5.3% of sales (including the margin).

2.2.3 Review of retail electricity prices

In August 2023, the ICRC issued an Issues Paper to initiate a review into retail electricity prices for the 1 July 2024 to 30 June 2027 period.[47] The terms of reference for the review requires that the methodology for determining standing offer prices has regard to a reasonable pricing offer for small customers that does not unduly disadvantage those who do not actively engage in the energy market, while balancing the competitiveness of the retail electricity market.

In its Issues Paper, the ICRC noted that the retail margin over the last few regulatory periods was based on the 2013 analysis by SFG Consulting for IPART, which is now 10 years old. ICRC considers that it is appropriate to update the benchmark. In doing so, it will review how other regulators currently set the retail margin.[48]

[43] ICRC, *Draft report, Standing offer prices for the supply of electricity to small customers, 1 July 2014 to 30 June 2017*, Report 1 of 2014, February 2014, p. 93.

[44] ICRC, *Final report, Standing offer prices for the supply of electricity to small customers, 1 July 2014 to 30 June 2017*, Report 4 of 2014, June 2014, pp. 33-34.

[45] ICRC, *Final report, Standing offer prices for the supply of electricity to small customers from 1 July 2017*, Report 6 of 2017, June 2017, pp. 35-36.

[46] ICRC, *Retail electricity price investigation, Final report,* Report 9 of 2020, June 2020, pp. 51-52.

[47] ICRC, *Standing offer prices for the supply of electricity to small customers from 1 July 2024*, Report 5 of 2023, August 2023.

[48] Ibid, p. 17.

Three stakeholders commented on updating the retail margin benchmark:

— ActewAGL supports updating the SFG Consulting study using the latest available information or undertaking an independent study that takes into account the current risk facing electricity retailers in the ACT.[49]

— Origin Energy submitted that a conservative approach be adopted by retaining the current allowance (5.6%) given rising inflation and interest rates.[50]

— Energy Australia is of the view that the ICRC should adopt the DMO approach, and should avoid mixing the DMO and VDO approaches. [51]

2.3 Queensland

Prior to 1 July 2016, the QCA set retail electricity prices for all customers in Queensland. With the electricity market in south-east Queensland becoming increasingly competitive, the QCA has set retail electricity prices only for customers in regional Queensland from 1 July 2016.

On an annual basis, the Minister delegates their power to determine regulated retail electricity prices to the QCA. The terms of reference for each determination are provided with the letter of delegation, and are broadly similar from year to year, other than the change in the geographic scope from 1 July 2016 and various changes to tariffs that are requested by the Minister (such as new tariffs, tariffs to be extinguished etc.). Key policies and principles to be considered by the QCA in its determinations are:

1. Uniform Tariff Policy – the Government's Uniform Tariff Policy, provides that, wherever possible, customers of the same class should pay no more for their electricity, and should be able to pay for their electricity via similar common price structures, regardless of their geographic location.
2. Framework – the standard building block approach is to be used with the network costs treated as a pass through and the energy and retail costs determined by the QCA.
3. Network and metering costs – for most residential and small business customers, are to be based on the network and metering costs in south-east Queensland.[52]

Under the Queensland Government's Uniform Tariff Policy, the incumbent retailer for regional Queensland is subsidised. As a result, the retail electricity market in regional Queensland is not effectively competitive.

2.3.1 Retail electricity prices

In June 2023, the QCA issued its Final Determination on the regulated retail electricity prices in regional Queensland for 2023-24. The approach to calculating each of the building blocks for small customers[53] is summarised in Table 2.11, with the values for 2023-24.

[49] ActewAGL's submission on the ICRC's Issues paper, 31 August 2023.

[50] Origin Energy's submission on the ICRC's Issues paper, 7 September 2023.

[51] Energy Australia's submission on the ICRC's Issues paper, 31 August 2023.

[52] For example, Department of Energy and Public Works, *Electricity (Ministerial) Delegation (No. 1) 2022 to the Queensland Competition Authority*, 14 December 2022.

[53] Residential customers and business customers that consume less than 100 MWh per annum.

Table 2.11 Building blocks, Queensland, 2023-24

Building block	Approach	Value
Wholesale electricity costs	Develop a distribution of wholesale electricity costs by aggregating hourly spot and contracting cost for each of 561 simulations based on: – Demand profile – stochastic modelling of 51 weather influenced hourly load profiles using AEMO demand forecast and accounting for solar PV. – Wholesale electricity spot prices – stochastic modelling of forecast hourly wholesale electricity prices using 51 load profile and 11 simulations of thermal power station availability. – Forward contract prices – estimated using ASX Energy contract price data verified with broker data based on observed trade volumes and trade volume weighted average price. – Hedging strategy – assume contracts entered into progressively over 2-3 years with a mix of base (or flat), peak and cap contracts. QCA uses the 95th percentile of the distribution of wholesale electricity costs.	Tariffs 11 and 20 (residential and small business flat load) – $171.87 per MWh Tariff 33 (controlled load) - $118.41 per MWh
Network costs (including metering costs)	Network tariffs – as approved by the AER for Energex (south-east Queensland). Metering costs – based on: – costs for standard type 6 meters in south-east Queensland – costs retailers incur for small customer advanced digital meter (ADM) services in south-east Queensland – rate of replacement of distributor meters with ADMs.	Varies by tariff Tariff 11 and 20 – 17.71 c/day ($64.64 per annum) Tariff 33 – 3.385 c / day ($12.36 per annum)
Environmental costs	Public information on costs of national green schemes: – Large-scale Renewable Energy Target – Small-scale Renewable Energy Scheme.	 – $7.44 per MWh – $6.86 per MWh
Retail costs	Retail operating costs – the fixed retailer costs were estimated for 2021-22 based on a benchmarking approach and have since been escalated by CPI. Customer acquisition and retention costs – retail operating cost includes a reasonable allowance.	Residential (Tariff 11, flat rate) – $126.78 per annum Residential (Tariff 33, controlled load) – $0 Small business – $187.99 per annum Included above

Building block	Approach	Value
Other costs	Latest market information on:	
	– market intervention costs	– $0.90 per MWh
	– AEMO (NEM) fees	– $0.95 per MWh
	– ancillary charges	– $0.47 per MWh
	– prudential costs	– $3.81 per MWh
	– Reserve and Emergency Reserve Trader costs.	– $0.04 per MWh
	Pass through of over- or under-recovery of costs for small-scale Renewable Energy Target Scheme.	Residential customers (Tariff 11 and 33) – rebate of $2.84 per MWh Small business customers (Tariff 20) – rebate of $3.14 per MWh
Network losses	As published by AEMO.	Tariffs 11 and 20 – $13.08 per MWh (applied to wholesale electricity costs, environmental costs and other costs)
Retail margin	Reasonable margin – refer section 2.3.2. For the purposes of this report, expressed as a percentage applied to the cost stack (excluding the margin).	Residential customers: – Tariff 11 (flat load), based on median consumption of 4,468 kWh pa – 6.05% – Tariff 33 (controlled load), based on median consumption of 1,513 kWh pa – 7.06% Small business customers: – Tariff 20 (flat load), based on median consumption of 4,891 kWh pa – 15.31%
	Additional margin / headroom (standing offer adjustment) – an adjustment to reflect more favourable terms and conditions in standard contracts relative to market contracts (4.56%) less the difference between the resulting price and DMO price if the notified price is greater than the DMO price.	0%

Source: Queensland Competition Authority, Regulated retail electricity prices in regional Queensland 2023-24, Final determination, June 2023; Queensland Competition Authority, Regulated retail electricity prices in regional Queensland 2023-24, Technical appendices, June 2023; ACIL Allen, Estimated energy costs for use by the Queensland Competition Authority in its Final Determination of 2023-24 retail electricity tariffs, 24 May 2023.

The key points to note are:

1. The regional Queensland electricity market is not effectively competitive for small electricity customers.
2. The wholesale electricity costs are for the 95th percentile of a distribution of forecast wholesale electricity costs.
3. The retail operating costs are estimated based on benchmarking of market offers, indexed by CPI. They include a reasonable allowance for CARC.
4. In 2023-24, the retail margin for residential and small business customers varies between 5.56% and 13.82% (applied to the cost stack excluding the margin).
5. The QCA's standing offer adjustment of 4.56% was reduced to zero based on a comparison with AER's DMO price.

2.3.2 Retail margin

The QCA has regulated retail prices annually since 2007-08. The determinations for 2013-14, 2014-15 and 2015-16 included a retail margin of 5.7% of total costs inclusive of the margin or 6.0% of the total costs exclusive of the margin, consistent with IPART's 2013 decision. The QCA was of the view that it was appropriate to adopt the same retail margin as IPART because:

- *it was the most recently-estimated benchmark available*
- *it was based on extensive analysis*
- *we considered that retailers face similar levels of risk in Queensland and NSW.*[54]

2016-17 determination of regulated retail prices

The QCA undertook a comprehensive review of the retail operating costs and retail margin for its 2016-17 determination of regulated retail prices based on market observations and confidential data supplied by the electricity retailers. It considered that it was no longer appropriate to benchmark other regulatory decisions as many comparable jurisdictions (including NSW and South Australia) had removed retail price regulation in recent years. It also noted that reliance on other regulatory decisions generates circularity, which leads to regulatory error over time.[55]

QCA engaged ACIL Allen to undertake the comprehensive review. We analysed competitive retail market offers available across several competitive jurisdictions (New South Wales, South Australia, Victoria and south-east Queensland), to derive the implied level of retailer costs (retail operating costs and retail margin) incurred by retailers. This analysis was conducted on both flat rate (non-time-of-use) residential tariff offers, and flat rate small business tariff offers.

We estimated the retailer costs in each market offer by deconstructing the components of retail tariffs, and benchmarking the retailer costs. It started with total average customer bills based on retailer market offers, before deducting network costs and estimated energy purchase costs. The residual amount reflects the total retailer cost component of each tariff.

We normalised the data for known cost differences between jurisdictions, for example, costs associated with state-based energy efficiency schemes. This normalisation process produced retailer cost observations that, as far as possible, can be compared on a like-for-like basis across retailers and distribution regions.

To support the benchmarking analysis, the QCA issued formal information requests to retailers operating in regional Queensland, requiring them to supply cost data. The information provided by retailers was not sufficiently robust for us to use it as the primary basis for estimating efficient retail costs; it was of varying quality and completeness, and highlighted significant differences in the way retailers categorise costs.

The benchmarking revealed that:

— The average total retailer costs for residential retail tariffs were close to the QCA's existing allowance. However, retailers appeared to recover more of these costs from the variable component of retail tariffs than previously assumed.

— Average total retailer costs are higher for small business customers than for residential customers, with retailers recovering a greater proportion of retail costs from the variable component of small business tariffs, compared to previous assumptions.

[54] Queensland Competition Authority, *Regulated retail electricity prices for 2015-16, Final determination*, June 2015, p. 32.

[55] Queensland Competition Authority, *Regulated retail electricity prices for 2016-17, Final determination*, June 2016, p. 24.

— There are significant differences in how retailers allocate retail costs between fixed and variable components. This also differs across customer tariff classes. For example, the data indicated that the proportion of retailer costs that are recovered through the variable component is higher in the case of small business tariffs than in the case of residential customer tariffs.

The retailer costs as set out in Table 2.12 were estimated based on the benchmarking. The fixed retailer cost was consistent with the confidential data provided by the retailers.

Table 2.12 Retailer costs, 2015-16

Customer class	Fixed retailer cost	Variable retailer cost
Residential customers	$127.93 per annum	2.25 c/kWh
Small business customers	$181.56 per annum	2.58 c/kWh

Source: Queensland Competition Authority, Regulated retail electricity prices for 2016-17, Final determination, May 2016, Table 8

The QCA converted the fixed retailer cost to a cents per day charge by dividing by 365.25. The fixed retailer cost was included in the retail tariffs for residential and small business customers, other than the controlled load tariffs and the tariff for unmetered loads.

The variable retailer cost was converted to a percentage of variable costs, so that it could be applied to flat tariffs, time of use tariffs and demand tariffs. The variable retail cost allocator was 11.27% for residential customers and 12.80% for small business customers.

Assuming that the variable retailer cost is equivalent to the retail margin, the retail margins in 2016-17 (when expressed as the percentage applied to the cost stack excluding the margin) were as follows:

— Tariff 11 (residential flat load), based on median consumption of 4,203 kWh pa – 9.35%

— Tariff 33 (residential controlled load), based on median consumption of 1,666 kWh pa – 10.79%

— Tariff 20 (small business flat load), based on median consumption of 6,422 kWh pa – 11.28%.

In the next four determinations, the fixed retailer cost was subsequently escalated by CPI each year and the variable retail cost allocator was maintained at 11.27% for residential customers and 12.80% for small business customers.

2021-22 determination of regulated retail prices

The retail cost allowances were benchmarked again for the 2021-22 determination of regulated retail prices. There were three key differences between the two benchmarking exercises:

1. Given the increased competitiveness of the retail electricity market in south-east Queensland, the benchmarking only considered market offers in south-east Queensland and did not include market offers from other jurisdictions.
2. Given the improved publicly available data, the retailer costs were based on benchmarked costs weighted by the market share of the retailer rather than a simple average that was used for the 2016-17 determination.
3. The analysis for the 2016-17 determination was based on the lowest offer from each retailer in each distribution zone while the analysis for the 2021-22 determination was based on all offers, with outliers removed in both cases.

The results from the benchmarking are set out in Table 2.13. The fixed retailer costs decreased from 2015-16 to 2020-21. The variable retailer cost for residential customers also decreased while the variable retailer cost for small business customers increased.

Table 2.13 Retailer costs, 2020-21

Customer class	Fixed retailer cost	Variable retailer cost
Residential customers	$123.35 per annum	1.37 c/kWh
Small business customers	$172.68 per annum	3.63 c/kWh

Source: Queensland Competition Authority, Regulated retail electricity prices for 2016-17, Technical appendices, Appendix D, May 2016, Tables 1 and 2

The variable retailer cost was again converted to a percentage of variable costs. The variable retail cost allocator was 7.27% for residential customers and 18.7% for small business customers.

Assuming that the variable retailer cost is equivalent to the retail margin, the retail margin in 2021-22 (when expressed as the percentage applied to the cost stack) was as follows:

— Tariff 11 (residential flat load), based on median consumption of 4,210 kWh pa – 5.74%

— Tariff 33 (residential controlled load), based on median consumption of 953 kWh pa – 7.16%

— Tariff 20 (small business flat load), based on median consumption of 6,443 kWh pa – 15.25%.

2.3.3 Standing offer adjustment

The retail electricity prices regulated by the QCA currently include a standing offer adjustment, which was previously referred to as headroom. In the determinations up to 2020-21, a standing offer adjustment or headroom of 5% of total costs was included. This was based on consistency over the years and analysis by the QCA that the value to customers of a standing offer contract was greater than 5%.[56]

In 2021-22, the QCA considered the maximum additional fees that could be incurred by a customer in south-east Queensland on a market offer contract. It found that these fees could range from $0 to over $110 on an annual basis, with an average of around $55 or 3.6% of a small customer's annual bill. The standing offer adjustment was determined to be 3.6% in 2021-22.[57]

The analysis has since been updated in each year, with the standing offer adjustment increasing to 3.7% in 2022-23[58] and 4.56% in 2023-24.[59]

With the introduction of the DMO prices, the QCA has, since 2020-21, also compared the prices it determines to the DMO prices determined by the AER. If the prices it determines are greater than the DMO prices, the standing offer adjustment is reduced.

[56] Queensland Competition Authority, *Regulated retail electricity prices for 2020-21, Regional Queensland, Final determination*, June 2020, pp. 35-37.

[57] Queensland Competition Authority, *Regulated retail electricity prices for 2021-22, Regional Queensland, Final determination*, June 2021, pp. 55-56.

[58] Queensland Competition Authority, *Regulated retail electricity prices for 2022-23, Regional Queensland, Final determination*, May 2022, pp. 54-55.

[59] Queensland Competition Authority, *Regulated retail electricity prices in regional Queensland 2023-24, Final determination*, June 2023, p. 36.

The following changes have been made to the standing offer adjustment as the prices determined by the QCA have been greater than the DMO price:

- 2020-21 – the standing offer adjustment in tariff 11 (residential flat load) was reduced from 5% to 2.2%[60]
- 2021-22 and 2022-23 – no were changes to the standing offer adjustment[61, 62]
- 2023-24 – the standing offer adjustment was reduced from 4.56% to zero for all tariffs.[63]

All prices determined by the QCA were higher than the DMO prices in 2023-24 because of a change by the AER to the methodology used to determine the wholesale electricity price. Until 2023-24, the AER and QCA had used a similar methodology, with the wholesale electricity costs being the 95th percentile of the distribution of potential costs. For 2023-24, the AER used the 75th percentile rather than the 95th percentile, thus reducing the wholesale electricity costs in the DMO prices without any change to the retail margin to reflect the higher risk. As a result, the retail electricity prices determined by the QCA were higher than those determined by the AER.

2.4 Tasmania

Despite the introduction of retail electricity competition in Tasmania on 1 July 2014, the OTTER has continued to regulate retail electricity standing offer prices for small customers.[64] As a result, the Tasmanian electricity market for small electricity customers is not effectively competitive, dominated by the incumbent retailer, Aurora Energy.[65] Around 97% of all residential and small business customers on mainland Tasmania are customers of Aurora Energy.[66]

Under section 40AA of the *Electricity Supply Industry Act 1995*, the OTTER must determine:

- the maximum prices that may be charged by a regulated offer retailer under standard retail contracts in respect of small customers, or
- a method of determining the maximum prices that may be charged by a regulated offer retailer under standard retail contracts in respect of small customers.

Section 40AB of the *Electricity Supply Industry Act 1995* sets out the principles to be applied in making such a determination. These include that the OTTER must:

- estimate the operational costs of the retailer using the standard building block approach, including:
  - the wholesale electricity costs
  - the transmission and distribution costs, as determined by the AER
  - the reasonable cost to serve
  - any other reasonable costs incurred by the regulated offer retailer

[60] Queensland Competition Authority, *Regulated retail electricity prices for 2020-21, Regional Queensland, Final determination*, June 2020, p. 37.

[61] Queensland Competition Authority, *Regulated retail electricity prices for 2021-22, Regional Queensland, Final determination*, June 2021, p. 58.

[62] Queensland Competition Authority, *Regulated retail electricity prices for 2022-23, Regional Queensland, Final determination*, May 2022, p. 55.

[63] Queensland Competition Authority, *Regulated retail electricity prices in regional Queensland 2023-24, Final determination*, June 2023, pp. 36-37.

[64] Residential customers and small business customers using less than 150 MWh per annum.

[65] Australian Energy Regulator, *State of the Energy Market 2023*, p. 245.

[66] Office of the Tasmanian Economic Regulator, *2022 Standing Offer Electricity Pricing Investigation, Determination of Maximum Standing Offer Prices for Small Customers on Mainland Tasmania, 1 July 2022 to 30 June 2025, Final Report*, April 2022, p. 42.

— enable the retailer to make a reasonable return on its investment in respect of the provision of standard retail services, taking into account the risk of making that investment
— protect customers from the adverse effects of the exercise of substantial market power by the Hydro-Electric Corporation and the regulated offer retailer
— for the purpose of benefiting the public interest, ensure efficiency in the provision of standard retail services.

The legislative framework has been amended several times over the last decade. The OTTER undertook an investigation into standing offer prices in 2013, 2016 and 2022 under the legislative framework prevailing at the time, and made a determination on the standing offer prices to be applied for a specific period of time. Each year, Aurora Energy submits its proposed prices to the OTTER for approval. The maximum revenue from the standing offer prices must not exceed the revenue calculated in accordance with the prevailing determination.

The current determination for Aurora Energy includes 11 standing offer tariffs:

— residential (6) – light and power, hot water, hot water and space heating, off peak night and afternoon only, off peak night only, and time-of-use
— business (5) – general, institutional hot water, time-of-use, irrigation (time-of-use), and monthly kVA demand low voltage.[67]

2.4.1 Retail electricity prices

In April 2022, the OTTER issued a Standing Offer Price Determination for the period from 1 July 2022 to 30 June 2025. The approach to calculating each of the building blocks is summarised in Table 2.14, with the values for 2023-24.

Table 2.14 Building blocks, Tasmania, 2023-24

Building block	Approach	Value

Wholesale electricity costs	Calculated annually as follows:
	– multiply weekly regulated load following swap (LFS) price for each respective quarter of relevant year by weekly Absolute Minimum Capacity Offer Volume for that quarter for 8 quarters preceding start of each quarter of relevant year
	  – for weeks where Hydro Tasmania not required to set regulated contracts, Absolute Minimum Capacity Offer Volumes set to zero
	  – for all future weeks where there is no regulated LFS price, respective weekly point-in-time regulated LFS price for that quarter of the relevant year used in that week
	– sum of values divided by the sum of the weekly Absolute Minimum Capacity Offer Volumes for 8 quarters preceding start of each quarter of relevant year.
		$101.15 per MWh

[67] Office of the Tasmanian Economic Regulator, *Aurora Energy Pty Ltd, 2022 Standing Offer Price Determination*, Table 2.

Building block	Approach	Value
Network costs (including metering costs)	Network tariffs – as approved by the AER.	$97.37 per MWh
	Metering charges – based on total estimated direct metering charges, one-off fee-based services and the recovery of capital costs associated with AEMO market compliance.	$14.34 per MWh
Environmental costs	Public information on costs of national green schemes: – Large-scale Renewable Energy Target – Small-scale Renewable Energy Scheme.	$17.63 per MWh
Retail costs	Retail operating costs – Aurora Energy's cost to serve estimated using a cost build up approach and tested against the allowance in other Australian jurisdictions. On the basis of this comparison, OTTER reduced the costs proposed by Aurora Energy and included an efficiency factor of 1.78% in 2022-23 and 3.4% for the next two years. Labour costs to be indexed by Tasmania's Wage Price Index and non-labour costs to be indexed by the Hobart CPI. If the number of customers increases by more than 2%, there is an adjustment to the cost to serve.	$167.36 per customer
	Customer acquisition and retention costs – retail operating cost includes a reasonable allowance.	Included above
Other costs	AEMO fees and ancillary charges – latest market information.	$2.57 per MWh
	Aggregate under/over recoveries from 2021-22 and 2022-23 – lower than forecast costs for large-scale Renewable Energy Target and small-scale Renewable Energy Scheme, offset by higher than forecast AEMO charges and metering charges.	Rebate of $1.13 per MWh
Network losses	As published by AEMO.	$5.92 per MWh (applied to wholesale electricity costs)
Retail margin	Reasonable margin – refer section 2.4.2.	$108.38 per customer, which equates to a margin of 4.8% applied to the cost stack or 4.6% of sales[68]
	Additional margin / headroom – nil	0%

Source: Office of the Tasmanian Economic Regulator, Standing Offer Price Approval Process, In Accordance with the 2022 Electricity Standing Offer Price Determination, Guideline, 29 April 2022; Aurora Energy, Pricing Proposal for Period 2 of the 2022 Standing Offer Price Determination, 1 July 2023 – 30 June 2024.

[68] The retail margin when expressed in percentage terms is significantly lower than the basis on which it was based largely due to a significant increase in wholesale electricity costs (24.9%).

The key points to note are:

1. The Tasmanian electricity market is not effectively competitive for small electricity customers.
2. The wholesale electricity costs are for based on median costs.
3. The retail operating costs are based on Aurora Energy's costs, tested against other regulatory decisions.
4. In 2023-24, the retail margin is 4.8% (applied to the cost stack excluding the margin). The retail margin was originally determined to be 5.25% and then converted to a fixed amount. The actual margin has declined due to an increase in wholesale electricity prices.

2.4.2 Retail margin

In its determination of regulated retail prices from 1 July 2013 to 30 June 2016, the OTTER provided for an increasing retail margin from 5.1% in the first year to 5.5% in the second year to 5.7% in the third year.

The 5.7% retail margin in the third year was consistent with the retail margin as determined for 2013-14 by IPART in NSW and QCA in Queensland. The retail margin was lower in the first two years as the risk for Aurora Energy of customers moving to another retailer was lower in Tasmania than in other jurisdictions with the following restrictions placed on the rate of churn:

— 1 January 2014 to 30 March 2014 – no churn permitted

— 1 April 2014 to 30 June 2014 – a maximum churn of 1,000 customers per month between the regulated offer retailers

— 1 July 2014 to 31 December 2014 – a maximum churn of 1,000 customers per month between all retailers

— 1 January 2015 onwards – no limitations on churn.[69]

The retail margin was maintained at 5.7% in the 2016 investigation into regulated retail prices, consistent with the decisions by IPART, QCA and ICRC in 2015-16,[70] although we note that the OTTER has interpreted the retail margins to be the same despite the margin being applied differently.

In its 2022 investigation into regulated retail electricity prices, the OTTER was of the view that the retail margin for Aurora Energy should be reduced:

— in line with the sharply declining retail margins across the National Electricity Market – a report by the ACCC indicates that the estimated retail margin per average residential customer has declined from $137 per customer in 2016-17 to around $49 per customer in 2020-21 (in real $2020-21)[71][72]

— to reflect lower finance and depreciation costs associated with Aurora Energy's new billing system.[73]

[69] Office of the Tasmanian Energy Regulator, *Investigation to determine maximum standing offer prices for small customers on mainland Tasmania, Final Report,* May 2013, pp. 45, 48.

[70] Office of the Tasmanian Energy Regulator, *Report on the investigation of maximum prices for interim price-regulated electricity retail services for small customers on mainland Tasmania, Final Report,* July 2013, pp. 82, 86-89.

[71] ACCC, *Inquiry into the National Electricity Market*, 22 November 2021, p. 31.

[72] We note that the 2020-21 retail margin includes negative margins in South Australia and south-east Queensland, which is not financially sustainable.

[73] Office of the Tasmanian Energy Regulator, *2022 Standing Offer Electricity Pricing Investigation, Investigation of Maximum Standing Offer Prices for Small Customers on Mainland Tasmania, 1 July 2022 to 30 June 2025*, *Final Report*, April 2022, pp. 37-38, 44.

The OTTER determined that a retail margin of 5.25% was more appropriate. This is the mid-point between the low point of 4.8% as estimated by Frontier for the ESC (refer Table 2.6) and the existing retail margin of 5.7%.[74] The OTTER then converted this to a dollar figure for 2020-21 by multiplying the retail margin of 5.25% by the approved costs over the past two years, and then indexed that value by CPI. The resultant retail margin for 2022-23 was $100.90 per customer.

For 2023-24 and 2024-25, the value of the retail margin allowance (in dollar terms) is indexed by the movements in the Hobart CPI.[75]

2.5 Summary of regulatory decisions on the retail margin

Table 2.15 summarises the approaches that have been adopted by the regulators in Victoria, the ACT, Queensland and Tasmania to determine the retail margin included in regulated retail electricity prices.

To provide context for these decisions, the table also provides other information that is relevant to the decisions, including the competitiveness of the retail electricity market, the basis for determining the retail electricity price, the high-level approach to determining the wholesale electricity costs and a comparison of the retail operating costs and retail margin in 2023-24. The table does not include information on the building blocks that are determined in a similar way across regulators, such as the network costs, or where any differences are not material to the outcome, such as the environmental costs.

All else being equal, we would expect that the retail margin should be higher in those jurisdictions in which the:

— retail electricity prices facilitate a more competitive market

— methodology for estimating the wholesale electricity prices exposes the retailers to more risk

— allowance for retail operating costs is lower.

However, a comparison of the retail margins indicates that this is not necessarily the case. For example, the retail margin in the electricity prices for customers in regional Queensland is higher than for customers in other jurisdictions:

— although the market is not effectively competitive

— despite the allowance for wholesale electricity prices exposing retailers to less risk

— consistent with a lower allowance for retail operating costs.

[74] Office of the Tasmanian Energy Regulator, *2022 Standing Offer Electricity Pricing Investigation, Investigation of Maximum Standing Offer Prices for Small Customers on Mainland Tasmania, 1 July 2022 to 30 June 2025*, *Draft Report*, February 2022, p. 46.

[75] Office of the Tasmanian Energy Regulator, *2022 Standing Offer Electricity Pricing Investigation, Investigation of Maximum Standing Offer Prices for Small Customers on Mainland Tasmania, 1 July 2022 to 30 June 2025*, *Final Report*, April 2022, pp. 44-45.

Table 2.15 Summary of retail margin determinations in other jurisdictions

Jurisdiction	Competitiveness of retail electricity market	Basis for determination	Wholesale electricity costs	Retail operating costs (2023-24)	Retail margin (2023-24)	Additional margin (2023-24)
Victoria	Competitive	Set default prices for residential customers (flat tariff, time of use tariff and controlled load tariff) and small business customers (flat tariff and time of use tariff)	Median costs plus small volatility allowance	$132.03 per customer based on retailer data, plus $43.89 per customer for customer acquisition and retention costs based on 2013-14 ACCC benchmark No fixed costs included for controlled load	5.3% Reduced from 5.7% (based on IPART's 2013 analysis) as reported margins have decreased and other regulators have decreased the retail margin. IPART's 2013 analysis averaged the retail margin estimated using an expected returns approach, a bottom-up approach and benchmarked margins across lister retailers in other industries	Nil
ACT	Not effectively competitive	Revenue earned by ActewAGL from small electricity customers	Median costs plus small volatility allowance	$143.00 per customer based on indexed 2013 benchmark, plus $31.81 per customer for regulatory changes	5.6% Reduced from 5.7% (based on IPART's 2013 analysis) as wholesale electricity prices and interest rates have changed	Nil
Queensland (regional)	Not effectively competitive	Set regulated maximum retail prices for all customers	95% percentile of distribution of wholesale electricity costs	Residential - $126.78 per customer Small business - $163.03 per customer Based on benchmarking 2021-22 market offers in south-east Queensland, indexed by CPI	Residential flat load – 6.05% Residential controlled load – 7.06% Small business flat load – 15.31% Based on benchmarking 2021-22 market offers in south-east Queensland	Standing offer adjustment of 4.56% but reduced to zero to align with DMO price
Tasmania	Not effectively competitive	Revenue earned by Aurora Energy from small electricity customers	Median costs	$167.36 per customer based on Aurora's costs, tested against other regulatory decisions	4.8% Based on a 5.25% margin (which is lower than the 5.7% from the 2013 IPART analysis due to sharply declining margins and a new billing system). This was converted to a dollar figure, which was lower than 5.25% when expressed as a percentage due to an increase in wholesale electricity prices.	Nil

Source: ACIL Allen based on data sources identified in this chapter

3 Identification and assessment of methodologies

This chapter identifies the methodologies for estimating a reasonable retail margin through consideration of the methodologies adopted in other jurisdictions and submissions recently received by other regulators on the retail margin (as discussed in Chapter 2), and submissions on the AER's Issues Paper on the DMO 6 prices (discussed in section 3.1).

The methodologies are then assessed against a set of criteria.

3.1 AER consultation on the retail margin

In its Issues Paper on the DMO 6 prices, the AER identified the following potential options for a retail allowance and sought comments from stakeholders:

- *Maintaining the current approach of calculating the retail allowance as part of the DMO price.*
- *Setting the retail allowance as a fixed dollar amount.*
- *Separating the retail allowance into a percentage-based efficient margin component and a fixed competition allowance component.*[76]

The current approach to calculating the retail allowance as part of the DMO price was supported by 1st Energy, the Australian Energy Council, AGL, Alinta Energy, Energy Australia, Globird Energy, Momentum Energy, Origin Energy, Shell Energy and Powershop, Red Energy and Lumo Energy and Simply Energy. However, Simply Energy noted that the current approach could be improved for small business customers – the approach currently uses data for 'non-residential low voltage demand tariff' customers that includes large commercial and industrial customers. As a result, it was of the view that it understates the retail margin for small customers.

The current percentage-based approach to setting the retail allowance was preferred to a fixed allowance for consistency, simplicity and provision of regulatory certainty. Compared to a fixed allowance, they considered that a percentage-based approach takes better account of changing market conditions, changes in bad and doubtful debts and changes in working capital costs, which are proportional to all costs incurred by a retailer. Momentum Energy noted that the retail allowance would need to cover:

— depreciation and amortisation costs that it considered to have been extensive in recent times

— intra year cost changes to DMO inputs which must be funded by the retailer until the following annual DMO reset occurs.

The Australian Energy Council noted that a fixed amount would need regular re-evaluation to ensure it is still appropriate. Red Energy and Lumo Energy submitted that a shift to a fixed dollar amount would impact some retailers negatively compared to others, as the cost structures differed

[76] Australian Energy Regulator, *Default market offer prices 2024-25, Issues paper*, October 2023, pp. 23-24.

between large and small retailers. It was of the view that this would be a significant risk to the competitiveness of the market.

The only retailer supporting a fixed retail amount is Energy Locals. It considered a fixed amount to be more appropriate than a percentage-based approach as its costs (staff and billing costs) are fixed, and it provides more certainty. However, we note that the types of costs referred to by Energy Locals are included in the retail operating costs rather than the retail allowance or margin. Energy Locals also noted that a single retail allowance for all retailers favours larger retailers who can absorb fixed costs over a larger customer base.

The NSW Minister for Energy suggested alternative options for setting a retail allowance – an absolute profit value per customer or an inflation-linked approach to limit the compounding effects of energy price volatility.

PIAC, ACOSS and SACOSS proposed that the retail allowance be calculated as a percentage of the retail cost to serve only, excluding customer acquisition and retention costs or profit. To provide an incentive for efficiency, it also suggested that the retail allowance could be capped at a dollar amount.

3.1.1 Level of retail allowance

Alinta Energy, Energy Australia, Globird Energy, Momentum Energy, Shell Energy and Powershop, and Simply Energy supported a re-instatement of the glide path to a retail allowance of 10% for residential customers and 15% for small business customers. Energy Australia noted that the current retail allowance of 10% does not translate to a retailer's margin (EBITDA) being close to 10%, and 1st Energy noted that a 2.5% retail margin does not promote a competitive market nor allow room for market volatility.

The SA Department for Energy and Mining does not support a glide path to a 10% retail margin for South Australian residential customers and is of the view that the 15% retail margin for South Australian small business customers should be reconsidered. It considers that different retail allowances in each jurisdiction could be justified based on differences in the markets as evidenced by differences in other cost components and different customer transfer rates. Similarly, SACOSS supports maintaining or reducing the current 6% retail margin for South Australian residential customers, and the NSW Minister for Energy suggests setting lower retail margin percentages as an alternative option.

3.1.2 Separation of retail allowance into an efficient margin and competition allowance

The Australian Energy Council, Alinta Energy, Energy Locals, Origin Energy, Shell Energy and Powershop, and Red Energy and Lumo Energy do not support separating the retail allowance into an efficient margin and competition allowance. This approach was considered to have no precedent, be administratively complex, impose further risks on retailers, and create further uncertainty. Origin Energy was of the view that it would result in a significant reduction compared to the current allowance, which would have a seriously detrimental impact on competition, and Shell Energy and Powershop submitted that it may not factor in other components of innovation and the required investments to compete and innovate.

By way of contrast, the Customer Consultative Group was of the view that the separation of the retail allowance into an efficient margin and competition allowance would provide more transparency, but would need to avoid duplicating costs such as advertising. PIAC, ACOSS and SACOSS also supported a separation of the retail allowance.

3.1.3 Components missing from the retail allowance

The AER also sought comments from stakeholders on whether any components are missing from the retail allowance.[77] 1st Energy suggested there needs to be recognition of the impact of increased working capital cost due to rising interest rates and wholesale market volatility, which has resulted in increased credit support costs. Shell Energy and Powershop were of the view that a glide-path based retail allowance needs to continue to cater for further innovation over multiple years.

3.1.4 Differences in retail and small business retail allowance

1st Energy, AGL, Energy Locals, Energy Australia, Origin Energy and Simply Energy supported the current difference in the retail allowance for residential and small business customers. AGL and Simply Energy submitted that a higher retail allowance for small business customers meets the DMO objectives as it reflects the different market characteristics associated with these customers. 1st Energy, Energy Locals and Energy Australia noted that there is a higher risk of bad and doubtful debts associated with small business customers compared to residential customers, and 1st Energy also noted the higher working capital and customer service requirements.

PIAC, ACOSS and SACOSS were of the view that the different margins need to be justified. Similarly, the Customer Consultative Group was of the view that the differences should be looked at by the AER noting that small businesses are taking the brunt of price rises and many small businesses are found in a residential location.

Energy Consumers Australia and Business SA submitted that there should be no difference in the retail margins between residential and small business customers, while SACOSS was of the view that they should be aligned but only if the retail allowance for small business customers is reduced to 6% (or lower) in line with the margin for South Australian residential customers.

3.2 Identification of retail margin methodologies

From our review of the methodologies adopted in other jurisdictions to estimate the retail margin, and stakeholders' submissions on the AER's Issues Paper, we have identified the following methodologies that could be adopted by the AER to estimate the retail allowance to include in the DMO 6 prices:

1. Assessing the level of a reasonable (efficient) retail margin:
    a) expected returns approach
    b) using retailers' data
    c) benchmarking of:
        i) regulatory decisions
        ii) market offers.
2. Presentation of the retail margin
    a) percentage of total costs (either inclusive or exclusive of the margin)
    b) fixed amount
    c) percentage of the retail cost to serve.
3. If required, basis for updating the retail margin over time:
    a) change in level of retail margin (as a percentage)
        i) change in WACC
        ii) change in interest rates

[77] Australian Energy Regulator, *Default market offer prices 2024-25, Issues paper*, October 2023, p. 24.

b) change in the cost stack to which the retail margin is applied
   i) change in CPI
   ii) change in wholesale electricity prices.

These are discussed further in the following sections.

3.2.1 Assessing the level of the retail margin

We identified four potential approaches to assessing the level of a reasonable (efficient) retail margin.

The expected returns approach estimates a weighted average cost of capital required so that the "expected cash flows compensate investors for the systematic risk of those cash flows".[78] The expected returns approach was undertaken by SFG Consulting for IPART in 2013 and by Frontier for the ESC in 2019 (refer section 2.1.3).

The QCA obtained data from Queensland-based retailers as part of its comprehensive review into the retailer costs and margins for its 2016-17 determination of regulated retail prices (refer section 2.3.2). The ESC obtains data from the retailers to determine ethe retail operating cost components of the VDO.

Over the years, the ESC, ICRC, QCA and OTTER have benchmarked regulatory decisions to inform the setting of a retail margin.

Since its 2016-17 determination of regulated retail prices, the retail margin used by the QCA has been informed by the benchmarking of market offers. The benchmarking was based on market offers in New South Wales, south-east Queensland, South Australia and Victoria for its 2016-17 determination and on market offers only in south-east Queensland for its 2021-22 determination.

3.2.2 Presentation of the retail margin

The retail margin has generally been presented as a percentage of retail costs, either inclusive or exclusive of the margin. However, a number of stakeholders have indicated a preference for the retail margin to be presented as a dollar amount. As part of its 2022 investigation into standing offer prices, the OTTER estimated the retail margin as a percentage of sales (excluding the margin) and then converted this to a dollar amount to be indexed annually by CPI during the period of the determination (refer section 2.4.2).

PIAC, ACOSS and SACOSS have suggested that the retail margin should be presented as a percentage of the retail cost to serve, excluding the customer acquisition and retention costs and the margin.

3.2.3 Updating the retail margin over time

The need to update the retail margin over time will depend in part on the way in which the retail margin is presented.

The fixed dollar retail margin in Aurora Energy's standing offers is indexed by the Hobart CPI from 2022-23 to 2023-24 and 2024-25.

[78] SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales,* 4 June 2013, p. 4.

Regulators have exercised their judgement to change the percentage retail margin from the 5.7% value estimated by IPART in 2013:

- in Victoria, the ESC reduced the margin to 5.3% for 2023-24 based on a decrease in margins reported by retailers and a decrease in the retail margin set by other regulators
- in the ACT, the ICRC:
  - reduced the margin to 5.3% for the 2017-20 period because of the large increase in wholesale electricity prices
  - increased the margin to 5.6% for the 2020-24 period because of a declining trend in wholesale electricity prices and a decrease in interest rates
- in Tasmania, the OTTER reduced the margin to 5.25% as part of its 2022 investigation into regulation retail prices in line with a decrease in margins reported by retailers and to reflect lower finance and depreciation costs associated with Aurora Energy's new billing system.

In exercising their judgement, the regulators had regard to the reasonable range as determined by SFG Consulting for IPART in 2013 (5.3% to 6.1%).

From the submissions received from stakeholders on the AER's Issues Paper, we have identified a number of objective bases on which the retail margin could be adjusted over time – WACC, interest rates, CPI and wholesale electricity prices.

The WACC and interest rates are inputs to estimate the retail margin using an expected returns approach. The retail margin is either calculated as a percentage that is applied to the cost stack, which may vary over time, or is converted to a fixed amount at a point in time. The OTTER currently uses CPI to index the retail margin which is presented as a fixed amount, and wholesale electricity prices have been cited by a number of regulators as a rationale for adjusting the percentage-based retail margin.

3.3 Assessment criteria

We identified a set of criteria against which each of the approaches to estimate, present and update the retail allowance or margin could be assessed, namely:

- transparency of the methodology
- availability of current data
- extent to which it takes into account the potential drivers of change identified by the AER such as sector risk, required return on capital, risk free rates, interest rates, inflation, customer types, regions etc.
- extent to which it takes into account any changes to the way in which the other cost components are estimated or any errors in the other cost components
- extent to which it informs the appropriate balance between incentivising competition and consumer engagement in the market and protecting consumers, that is, the extent to which it informs the AER on the separation of a reasonable (or efficient) margin and competition component.

A transparent methodology is consistent with good regulatory practice. It provides certainty to stakeholders as to the retail margin that will be included in the DMO price. A methodology that uses current data that is readily available is also consistent with good regulatory practice, providing certainty to stakeholders.

There are a number of potential drivers that will influence a reasonable (efficient) margin to be earned by the retailers. These include sector risk, required return on capital, risk free rates, interest rates, inflation, customer types, regions etc. We will assess the extent to which the methodology reflects these drivers in the outcomes.

As summarised in Table 2.15, different approaches are adopted by regulators to estimating the cost components in a regulated or default retail electricity price. The risks to the retailer vary under these different approaches. The higher the risk to the retailer, the higher should be the return. We will assess the extent to which the methodology produces a return that is consistent with the risks faced by the retailer. Additionally, there are inevitably errors in forecasting or estimating the different cost components. We will assess the extent to which the methodology mitigates this error, or whether it amplifies the error.

The AER has two competing objectives – to incentivise competition and consumer engagement, and to protect customers. If the objective was only to protect customers, the DMO price would only include a reasonable (or efficient) margin. However, a competition allowance is required to incentivise competition and consumer engagement. We will assess the extent to which the methodology will inform the AER as to the separation of a reasonable (efficient) margin and a competition component.

3.4 Assessment of retail margin methodologies

3.4.1 Assessing the level of a reasonable (efficient) retail margin

The options for assessing the level of a reasonable (efficient) retail margin area assessed against each of the assessment criteria in the following sections.

Expected returns approach

The expected returns approach has been undertaken a couple of times, including by SFG Consulting in 2013 for IPART and by Frontier for the ESC in 2019. The expected returns approach has informed a reasonable margin but has not been used to set the reasonable margin. IPART averaged the margins estimated by three different methodologies, with the expected returns approach producing the lowest margins. The ESC benchmarked other regulatory decisions, which were within the reasonable range as estimated using the expected returns approach.

The methodology is relatively transparent, producing a range of outcomes by changing a relatively small number of parameters (four). The regulator then has some discretion as to the point to choose within the range.

A key challenge with the expected returns approach is to determine the parameters that are to be used:

- WACC – risk-free rate, market risk premium, equity beta, gearing, debt premium and gamma[79]
- standard deviation of market returns
- non-volume related costs
- standard deviation of GDP growth.

While some of these can be determined objectively (e.g. risk-free rate, assuming a methodology is agreed), others are determined subjectively but have been subject to considerable debate in other contexts (e.g. gamma) and others are likely to be subject to considerable debate if this methodology is adopted (e.g. equity beta).

The expected returns approach would be responsive to changes in the required return on capital, risk free rates, interest rates, as these parameters are all inputs to estimating the retail margin using this approach. The expected returns approach could be responsive to sector risk through the judicious choice of the equity beta. The expected returns approach could be responsive to

[79] A post tax nominal WACC is used which does not rely on an assumed inflation rate.

customer types and regions if the retail margin is calculated by region and by customer type, and varying the equity beta, proportion of non-volume related costs and standard deviation of GDP growth accordingly.

The expected returns approach does not take into consideration the way in which the other cost components are calculated. The equity beta could potentially be varied depending on the approach that has been used to estimate the wholesale electricity costs – with a higher equity beta used if the median forecast wholesale electricity costs are used and a lower equity beta used if, for example the 95th percentile of the forecast wholesale electricity costs are used.

The expected returns approach will not act to mitigate any errors resulting from estimating the other cost components of the retail electricity price.

The expected returns approach will estimate a reasonable (efficient) retail margin. It will not provide any information on an appropriate competition allowance.

Using retailers' data

The AER has previously used retailers' data to estimate a reasonable retail margin, and the QCA obtained retailers' data to inform the retail margin for the 2016-17 determination of regulated retail prices.

Where retailers' data are used to estimate the retail margin, the data are provided on a confidential basis and hence the methodology is not transparent.

While retailers are readily able to provide data, we have found previously that the data cannot be relied on. Retailers do not operate separate businesses in each jurisdiction solely for electricity customers. They generally supply multiple products across multiple jurisdictions. As a result, they allocate costs to products, and to jurisdictions. The information provided is a result of this cost allocation process.

Additionally, electricity retailers treat costs differently. While some retailers incur operating costs by outsourcing some of their operations to a third-party provider, others invest significant capital in IT systems and incur depreciation expenditure. When analysing data provided by the retailers to the QCA, we found that some retailers treat depreciation and amortisation as a retail operating cost while others treat it as part of the retail margin.[80]

Subject to the limitations around the consistency of data and the arbitrariness of cost allocations, using retailers' data would ensure that the retail margin is responsive to changes in the required return on capital, risk free rates, interest rates, inflation, sector risk, customer types and regions.

Using the retailers' data does not take into consideration the way in which the other cost components are calculated, and will not act to mitigate any errors resulting from estimating the other cost components of the retail electricity price. However, if the same data were also used to estimate the retail operating cost, then the approach would mitigate the risk that retailer costs are double counted or missed. The risk that costs included in other cost components are also included in the retail operating costs or retail margin remains.

The use of retailers' data would provide an indication of the total margin earned by the retailer, but would provide little information on the separation of a reasonable (efficient) retail margin and an appropriate competition allowance. The AER may be able to infer some information from the spread of margins across retailers.

[80] ACIL Allen, *Regulated Retail Prices for 2016-17, Estimating the Efficient Retailer Costs, Final Report to Queensland Competition Authority*, 13 May 2016.

Benchmarking

Regulatory decisions

The most common approach to estimate a reasonable retail margin is to benchmark other regulatory decisions.

Estimating a retail margin by benchmarking other regulatory decisions is transparent and the data are readily available, although not current. However, this approach is circular and is based on an analysis that is now over 10 years old. The only recent analysis that has been undertaken is by the QCA but other regulators have been unable to interpret the outcomes to include them in their benchmarking.

As the analysis on which other regulators' decisions are based is now over 10 years old, it has not been updated for changes in the required return on capital, risk free rates, interest rates, inflation, or sector risk. The regulators have exercised their judgement to change the retail margin in response to these factors, but the reference point is the reasonable range estimated over 10 years ago.

The analysis undertaken over 10 years ago did not differentiate by customer type or by region. One third of the estimate was from benchmarking listed retailers in industries other than electricity in Australia, Canada, New Zealand, UK and USA, so did not reflect the sector risk for electricity retailers operating in Australia. One third of the estimate was from a bottom-up analysis of acquisitions of 8 electricity retailers, 3 gas retailers and one dual fuel retailer in Australia between January 2000 and December 2010. Accordingly, this portion of the estimate reflected the risk of electricity and gas retailers rather than just electricity retailers.

When benchmarking other regulatory decisions, the regulators have not taken into consideration how their approach to estimating the cost components differs from other regulators. That said, a similar approach has been taken by ESC, ICRC and OTTER, although that approach differs to that taken by the QCA and the AER.

Benchmarking other regulatory decisions will not act to mitigate any errors resulting from estimating the other cost components of the retail electricity price.

Benchmarking of other regulatory decisions provides little information on the separation of a reasonable (efficient) retail margin and an appropriate competition allowance unless the QCA analysis is included.

Market offers

The AER and QCA have benchmarked market offers to inform the estimate of a reasonable retail margin.

Estimating a retail margin by benchmarking retail market offers is transparent and the data that would be used for the analysis are current and readily available.

A retail margin estimated by benchmarking market offers will be responsive to changes in the required return on capital, risk free rates, interest rates, inflation, or sector risk, if it is updated regularly. If the analysis is updated annually, the retail margin will reflect the return on capital, risk free rates, interest rates, inflation, or sector risk from a year prior. However, it can be updated for changes in the year using one of the approaches discussed in section 3.2.3.

The retail margin can be differentiated by customer type and by region, by conducting the benchmarking using data from the required segments of the market.

For the purposes of this assessment, we have assumed that the benchmarking would be undertaken in a similar way to that undertaken for the QCA. While the QCA started with total

average customer bills based on retailer market offers, before deducting network costs and estimated wholesale electricity costs, the estimation of the retail margin for the DMO would also deduct the retail operating costs. If:

— the benchmarking is done using market offers shortly after commencement of the DMO 5 period, and
— the network costs, wholesale electricity costs and retail operating costs deducted are those that were determined for the DMO 5 prices, and
— the same methodology is used to estimate the network costs, wholesale electricity costs and retail operating costs for the DMO 5 and DMO 6 prices, then

the methodology would take into account the approach to estimating the other cost components and would act to mitigate any errors resulting from estimating the other cost components of the retail electricity price. If the approach to estimating one of the cost components changes between DMO 5 and DMO 6, this would need to be taken into account in the benchmarking.

The spread of retail margins resulting from the benchmarking of market offers would inform the separation of a reasonable (efficient) retail margin and an appropriate competition allowance.

One of the concerns that has been raised in relation to this approach is that the retail margins derived will be lower than the efficient margins because currently advertised market may be loss leading 'acquisition offers'. This concern was also considered in the most recent review of the approach by the QCA for the 2021-22 determination of regulated retail prices. As discussed in section 2.3.2, a couple of changes were made from the approach adopted for the 2016-17 determination:

— Given the improved publicly available data, the retailer costs were based on benchmarked costs weighted by the market share of the retailer rather than a simple average that was used for the 2016-17 determination.
— The analysis for the 2016-17 determination was based on the lowest offer from each retailer in each distribution zone while the analysis for the 2021-22 determination was based on all offers, with outliers removed in both cases.

As noted by the QCA:

> *We consider that a weighted average approach is likely to be more reflective of the costs that retailers in SEQ incur. It also lessens the impact of any loss-leading offers put forward by retailers competing to increase their market share. The effects of loss-leading offers are also likely to be addressed through the removal of outliers from the analysis. This should avoid any substantial artificial lowering of retail costs and should also exclude offers with excess retail margins. Overall, the weighted average approach, combined with the removal of outliers, should provide an appropriate representation of retail costs.*[81]

Additionally, the retail margins revealed through the benchmarking can be presented in a variety of ways to inform a regulatory decision based on the median, mean or specific percentile of the distribution of margins.

Summary

Table 3.1 summarises our assessment of the different approaches to estimating the level of the retail margin against the assessment criteria.

[81] Queensland Competition Authority, *Regulated retail electricity prices for 2021-22, Regional Queensland, Final determination*, *Technical Appendices*, June 2021, p. 37.

Table 3.1 Summary of assessment of approaches to estimate the level of a reasonable retail margin

	Transparency of methodology	Availability of current data	Responsiveness to changes in drivers	Responsiveness to changes in other cost components	Informs separation of efficient margin and competition component
Expected returns approach	●	◑	◑	◔	○
Using retailers' data	○	◑	●	○	◔
Benchmarking regulatory decisions	●	○	◔	◔	◔
Benchmarking market offers	●	●	◕	●	●

Note: ● Meets criteria ◕ Largely meets criteria ◑ Partly meets criteria ◔ Somewhat meets criteria ○ Does not meet criteria

Source: ACIL Allen.

3.4.2 Presentation of the retail margin

The options for presenting the retail margin are assessed in this section against two of the assessment criteria:

— transparency of the methodology

— extent to which it takes into account the potential drivers of change identified by the AER such as sector risk, required return on capital, risk free rates, interest rates, inflation, customer types, regions etc.

The other assessment criteria are not applicable.

Percentage of total costs

The retail margin is generally presented as a percentage of total costs (either including or excluding a margin). The presentation of the retail margin in this way is transparent – it enables the retail margin to be readily compared over time and to other similar metrics. If the retail margin is calculated by customer type and by region, it readily enables the retail margin to be compared across customer types and regions.

If presented in this form, the retail margin would respond to changes in the required return on capital, risk free rates, interest rates, inflation, or sector risk to the extent that these changes are reflected in the other cost components to which the retail margin is applied.

Fixed amount

The OTTER determined a retail margin based on a percentage, and then converted this to a dollar figure for use over a period of time.

The presentation of a retail margin as a fixed amount is less transparent than a percentage-based retail margin. The fixed amount would be derived based on the percentage-based retail margin and the median usage by customers in the segment to which the retail margin is applied. Accordingly, the retail margin across customer types and regions would vary because the retail margin as a percentage varies and because the median usage varies. Accordingly, it would be difficult to compare the retail margin across customer types and regions, although it would be readily comparable over time.

If presented in this form, the retail margin would not respond to changes in the required return on capital, risk free rates, interest rates, inflation, or sector risk. It would also not reflect the risks to the retailer of individual customers. The retail margin paid by a low usage customer would be the same

as that paid by a high usage customer, despite the working capital costs being higher for the high usage customer.

Percentage of the retail cost to serve

The retail margin has not previously been presented as a percentage of the retail cost to serve; it has been proposed as an alternative approach in submissions to the AER's Issues Paper. The outcome of presenting a retail margin as a percentage of the retail cost to serve is similar to a fixed amount because the retail cost to serve is the same for all residential customers in an electricity distribution zone and the same for all small business customers in an electricity distribution zone.

As the retail cost to serve does not vary significantly across electricity distribution zones, the retail margin would be similar across all residential customers and similar across all small business customers. Accordingly, the retail margin would be readily comparable across regions and over time in the future. The future retail margin would not be readily comparable with retail margins in the past as it will be a much higher percentage than when expressed as a percentage of the total cost stack.

If presented in this form, the retail margin would not respond to changes in the required return on capital, risk free rates, interest rates, inflation, or sector risk. It would also not reflect the risks to the retailer of individual customers. The retail margin paid by a low usage customer would be the same as that paid by a high usage customer, despite the working capital costs being higher for the high usage customer.

Summary

Table 3.2 summarises our assessment of the different approaches to present the retail margin against the assessment criteria.

Table 3.2 Summary of assessment of approaches to assess the presentation of the retail margin

	Transparency	Availability of current data	Responsiveness to changes in drivers	Responsiveness to changes in other cost components	Informs separation of efficient margin and competition component
Percentage of total costs	●	N/A	◕	N/A	N/A
Fixed amount	◔	N/A	○	N/A	N/A
Percentage of retail cost to serve	◑	N/A	○	N/A	N/A

Note: N/A Not applicable ● Meets criteria ◕ Largely meets criteria ◑ Partly meets criteria ◔ Somewhat meets criteria ○ Does not meet criteria

Source: ACIL Allen.

3.4.3 Updating the retail margin over time

The retail margin may need to be updated over time to account for changes in market conditions depending on:

— The approach to estimating the level of the retail margin – if the level of the retail margin is based on the expected returns approach, retailer data or benchmarking market offers, it would

reflect the current market conditions. If it is estimated based on benchmarking regulatory decisions, it would need to be updated to reflect current market conditions.

— The timing of the analysis – if the analysis was undertaken based on data that was a year old, as would occur using retailer data and benchmarking market offers, the retail margin may need to be updated based on changes in market conditions over that year.

— The frequency with which the analysis is updated – the more frequently the analysis is updated, the less market conditions would change between updates.

— Whether the retail margin is presented as a percentage or a fixed amount – if the retail margin is expressed as a percentage, the resultant allowance would change as the underlying cost components change. If the retail margin is expressed as a fixed amount, the resultant allowance would not change as the underlying cost components change

As discussed in section 3.2.3, the WACC and interest rates are inputs to estimate the retail margin using an expected returns approach. The retail margin could either be calculated as a percentage that is applied to the cost stack, which may vary over time, or be converted to a fixed amount at a point in time.

The options for updating the retail margin over time are assessed in this section against three of the assessment criteria:

— transparency of the methodology

— availability of current data

— extent to which it takes into account the potential drivers of change identified by the AER such as sector risk, required return on capital, risk free rates, interest rates, inflation, customer types, regions etc.

The other assessment criteria are not applicable.

Change in level of retail margin (as a percentage)

Change in WACC

As illustrated in Table 3.3, Frontier's expected returns analysis for the ESC indicates that the retail margin is not particularly sensitive to changes in the rate of return or WACC. However, it provides an indication as to how much the WACC would need to vary over time before any update of the retail margin would need to be considered.

Table 3.3 Sensitivity of the retail margin to changes in the WACC, based on the expected returns analysis

Parameter varied	Low	Mid-point	High
WACC	6.07%	6.55%	7.03%
Retail margin (EBITDA)	5.3%	5.4%	5.5%

Source: Frontier Economics, Retail Costs and Margin, A report for the Essential Services Commission*, 24 April 2019, Tables 2 and 4.*

The expected returns analysis could be used to inform whether an update to the retail margin calculated using retailers' data or a benchmarking approach should be considered based on a change to the WACC.

A key challenge with this approach is to determine the parameters that are to be used to calculate the WACC, including the:

— risk-free rate

— market risk premium

— equity beta

— gearing
— debt premium
— gamma.

While some of these parameters can be determined objectively (e.g. risk-free rate, assuming a methodology is agreed), others are determined subjectively but have been subject to considerable debate in other contexts (e.g. gamma) and others are likely to be subject to considerable debate if this methodology is adopted (e.g. equity beta).

Using the WACC to update the retail margin enables the retail margin to be responsive to changes in the sector risk, required return on capital, risk free rates and interest rates. As a post-tax nominal WACC is used, it does not vary with inflation. The approach is not responsive to differences across customer types or regions, unless a different WACC is used.

Change in interest rates

One of the key inputs to the WACC or rate of return is the interest rate or risk-free rate. An alternative and less contentious approach to update the rate of return over time is to change it only in response to the risk-free rate rather than the WACC. Table 3.4 indicates the change in risk-free rate that results in the same change in the rate of return as analysed by Frontier in the expected returns analysis for the ESC, with all other parameters unchanged.

Table 3.4 Sensitivity of the retail margin to changes in the risk-free rate, based on the expected returns analysis

Parameter varied	Low	Mid-point	High
Risk-free rate	2.21%	2.81%	3.41%
WACC	6.07%	6.55%	7.03%
Retail margin (EBITDA)	5.3%	5.4%	5.5%

Source: Frontier Economics, Retail Costs and Margin, A report for the Essential Services Commission*, 24 April 2019, Tables 2 and 4.*

The expected returns analysis could be used to inform whether an update to the retail margin calculated using retailers' data or a benchmarking approach should be considered based on a change to the risk-free rate (interest rate).

Assuming that a methodology is agreed for determining the risk-free rate, this approach would be less contentious than updating the retail margin based on changes to the rate of return.

Using the risk-free rate to update the retail margin enables the retail margin to be responsive to changes in the risk free rate and interest rate. As a post-tax nominal WACC is used, it does not vary with inflation. The approach is not responsive to changes in the sector risk, the required return on capital (although it is a reasonable proxy), or differences across customer types or regions.

Change in the cost stack to which the retail margin is applied

Change in CPI

As the rate of return used by Frontier is a post-tax nominal WACC, the WACC does not change with a change in the expected inflation rate. If the retail margin is presented as a percentage, there would be no change to the retail margin with a change in the CPI. When the retail margin percentage is applied to the cost stack, any changes in the underlying costs as a result of a change in CPI would be included in the retail margin allowance.

This will not be the case if the retail margin is presented as a fixed amount. The fixed amount could be indexed by CPI as a proxy for the change in the cost stack over time.

This approach is highly transparent and uses data that are readily available. The only potential point of contention is whether the CPI index is specific to each region or is a weighted average.

While this approach responds to changes in the inflation rate, this is a poor proxy for movements in the underlying cost stack. One of the key components of the cost stack is wholesale electricity prices which are volatile and are largely driven by factors other than the rate of inflation. As a result, the approach does not respond well to changes in sector risk, and does not take into account changes in the required return on capital, risk free rates, interest rates, customer types or regions.

Change in wholesale electricity prices

When the retail margin percentage is applied to the cost stack, any changes in the wholesale electricity costs would be included in the retail margin allowance.

This will not be the case if the retail margin is presented as a fixed amount. As one of the key components of the cost stack is wholesale electricity prices, which are volatile, the fixed amount could be indexed by the change in wholesale electricity prices over time.

This approach could use the same wholesale electricity price estimates that are used to estimate that component of the cost stack as part of the DMO prices. The wholesale electricity price estimates will vary based on customer type and region.

A key point of contention is likely to be whether the fixed retail margin allowance should increase with an increase in the wholesale electricity price. While the expected returns approach implies that the retail margin allowance will increase with an increase in wholesale electricity prices, and the retailers' working capital costs will increase with an increase in wholesale electricity prices, other regulators have used an increase in the wholesale electricity price as justification to reduce the retail margin in percentage terms so as to reduce the fixed retail margin allowance. Stakeholders supporting this approach may also assume that a fixed retail margin allowance should not increase as wholesale electricity prices increase.

Summary

Table 3.5 summarises our assessment of the different approaches to update the retail margin over time against the assessment criteria.

Table 3.5 Summary of assessment of approaches to update the retail margin over time

	Transparency	Availability of current data	Responsiveness to changes in drivers	Responsiveness to changes in other cost components	Informs separation of efficient margin and competition component
Change in WACC	◕	◑	◕	N/A	N/A
Change in interest rates	◕	◕	◑	N/A	N/A
Change in CPI	●	●	○	N/A	N/A
Change in wholesale electricity prices	◕	◕	◔	N/A	N/A

Note: N/A Not applicable ● Meets criteria ◕ Largely meets criteria ◑ Partly meets criteria ◔ Somewhat meets criteria ○ Does not meet criteria

Source: ACIL Allen

Recommended methodology for estimating a reasonable margin

4

A methodology for estimating a reasonable margin is recommended in this chapter based on the assessment of alternative approaches in section 3.4. The methodology considered includes consideration of:

— assessing the level of a reasonable retail margin
— the presentation of a reasonable retail margin
— updating of the retail margin over time.

4.1 Assessing the level of a reasonable retail margin

Four alternative approaches for assessing the level of a reasonable retail margin were identified:

1. expected returns approach
2. using retailers' data
3. benchmarking regulatory decisions
4. benchmarking market offer.

These alternative approaches were assessed against 5 criteria:

— transparency of methodology
— availability of current data
— responsiveness to changes in drivers
— responsiveness to changes in other components
— informs separation of efficient margin and competition component.

The assessment of the approaches to assess the level of a reasonable retail margin against these criteria is summarised in Table 4.1.

The approach that best meets these criteria is to benchmark market offers. It is a transparent approach, which is based on current data, and is flexible to be able to respond to changes in drivers and in the way in which the other cost components are derived. It will inform the separation of an efficient margin and competition allowance, and whether these should be variable (percentage-based) or fixed (in dollar terms).

The expected returns approach is also a transparent approach. It relies on some parameters that are readily available, but other parameters are more subjective and could be controversial. The expected returns approach responds to some drivers but does not respond well to changes in the approach to calculating other cost components. It also does not inform the separation of an efficient margin and competition allowance.

Benchmarking other regulatory decisions is a transparent approach but the other regulatory decisions that are benchmarked are based on a 2013 decision by IPART. Regulators have

exercised discretion to vary this benchmark margin based on changes in drivers and other cost components, but the decision to vary the margin from the benchmark is largely subjective. This approach would only inform the separation of an efficient margin and competition component if the QCA's analysis was also included in benchmarking, but it has not been included to date.

Using retailers' data is not a transparent approach as the data are provided by the retailers on a confidential basis. While the data provided will be current, it may be of limited value because the data are commonly derived based on the retailers allocating costs to different products and to different jurisdictions. Additionally, electricity retailers treat costs differently. This approach is not responsive to changes in the way in which other cost components are derived, and provides limited information on the separation of an efficient margin and competition allowance.

On the basis of this assessment, we recommend assessing the level of a reasonable retail margin by benchmarking market offers.

Table 4.1 Summary of assessment of approaches to estimate the level of a reasonable retail margin

	Transparency of methodology	Availability of current data	Responsiveness to changes in drivers	Responsiveness to changes in other cost components	Informs separation of efficient margin and competition component
Expected returns approach	●	◑	◑	◔	○
Using retailers' data	○	◑	●	○	◔
Benchmarking regulatory decisions	●	○	◔	◔	◔
Benchmarking market offers	●	●	◕	●	●

Note: ● Meets criteria ◕ Largely meets criteria ◑ Partly meets criteria ◔ Somewhat meets criteria ○ Does not meet criteria

Source: ACIL Allen.

4.2 Presentation of the retail margin

Three alternative approaches for presenting the retail margin were identified:

1. percentage of total costs (including or excluding the margin)
2. fixed amount
3. percentage of retail cost to serve.

These alternative approaches were assessed against 2 criteria:

— transparency of methodology

— responsiveness to changes in drivers.

The assessment of the approaches to present the retail margin against these criteria is summarised in Table 4.2.

The presentation that best meets the assessment criteria is to present the retail margin as a percentage of total costs. The percentage can be readily compared over time, across jurisdictions and across different types of customers. Additionally, if presented in this form, the retail margin would respond to changes in the required return on capital, risk free rates, interest rates, inflation, or sector risk to the extent that these changes are reflected in the other cost components to which the retail margin is applied.

If the retail margin is expressed as a percentage of the retail cost to serve, it could be compared across jurisdictions and across different types of customers. A fixed retail margin cannot be readily

compared over time, across jurisdictions and across different types of customers, as it is a function of the percentage basis on which it is set as well as the median usage of a customer in that particular class, which will vary across jurisdictions and across different types of customers.

A retail margin presented as a fixed amount or a percentage of the retail cost to serve would not respond to changes in the required return on capital, risk free rates, interest rates, inflation, or sector risk. It would also not reflect the risks to the retailer of individual customers. The retail margin paid by a low usage customer would be the same as that paid by a high usage customer, despite the working capital costs being higher for the high usage customer.

On the basis of this assessment, we recommend presenting the retail margin as a percentage of total costs, either inclusive or exclusive of the margin.

Table 4.2 Summary of assessment of approaches to assess the presentation of the retail margin

	Transparency	Availability of current data	Responsiveness to changes in drivers	Responsiveness to changes in other cost components	Informs separation of efficient margin and competition component
Percentage of total costs	●	N/A	◕	N/A	N/A
Fixed amount	◔	N/A	○	N/A	N/A
Percentage of retail cost to serve	◑	N/A	○	N/A	N/A

Note: N/A Not applicable ● Meets criteria ◕ Largely meets criteria ◑ Partly meets criteria ◔ Somewhat meets criteria ○ Does not meet criteria

Source: ACIL Allen.

4.3 Updating the retail margin over time

Four alternative approaches for updating the retail margin over time were identified – a change in:

1. WACC
2. interest rates
3. CPI
4. wholesale electricity prices.

These alternative approaches were assessed against 5 criteria:

— transparency of methodology

— availability of current data

— responsiveness to changes in drivers.

The assessment of the approaches to assess updating the retail margin over time against these criteria is summarised in Table 4.3.

If the retail margin is presented as a percentage, as recommended above, it does not need to be updated with changes in the CPI or wholesale electricity prices as changes in these parameters will be reflected in the costs to which the retail margin is applied. The only consideration then is whether the retail margin percentage should be updated with changes in the WACC or interest rates.

Our analysis in section 3.4.3 indicates that the retail margin percentage is not particularly sensitive to changes in the WACC or interest rates. Depending on the magnitude of changes to the WACC or interest rate, the retail margin percentage could be adjusted in line with the changes to the WACC or interest rate, or the market offers could be re-benchmarked.

The transparency of updating the retail margin percentage is similar using either the WACC or interest rate. The use of an interest rate rather than a WACC is likely to be less contentious, but the WACC reflects changes to more underlying drivers than just considering the interest rate alone (for example, a change to the sector risk could be reflected in a higher equity beta when considering the WACC).

On the basis of this assessment, we recommend considering whether market conditions have changed sufficiently since the most recent benchmarking to justify an update to the retail margin percentage. If the change in market conditions is not material, we recommend minor adjustments to the retail margin percentage in line with changes to the interest rate as indicated in Table 3.4. If there has been a material change in market conditions, we recommend refreshing the benchmarking.

Table 4.3 Summary of assessment of approaches to update the retail margin over time

	Transparency	Availability of current data	Responsiveness to changes in drivers	Responsiveness to changes in other cost components	Informs separation of efficient margin and competition component
Change in WACC	◕	◑	◕	N/A	N/A
Change in interest rates	◕	◕	◑	N/A	N/A
Change in CPI	●	●	○	N/A	N/A
Change in wholesale electricity prices	◕	◕	◔	N/A	N/A

Note: N/A Not applicable ● Meets criteria ◕ Largely meets criteria ◑ Partly meets criteria ◔ Somewhat meets criteria ○ Does not meet criteria

Source: ACIL Allen

4.4 Recommended approach

In summary, the approach that we recommend to estimating the retail margin is to:

- assess the level of a reasonable retail margin by benchmarking market offers
- present the retail margin as a percentage of the total costs, either inclusive or exclusive of the margin
- assess whether the retail margin needs to be updated since the last benchmarking exercise was undertaken based on changes in market conditions. If the change in market conditions is:
  - not material, we recommend minor adjustments to the retail margin percentage in line with changes to the interest rate as indicated by the expected returns approach (refer Table 3.4)
  - material, we recommend refreshing the benchmarking.

Methodology for estimating retail margins

5

This chapter describes the methodology that we have used to estimate retail margins by benchmarking retail market offers available during the DMO 5 period.

We have benchmarked the retail margin for the 15 DMO 6 tariffs, as set out in Table 5.1.

Table 5.1 Tariffs for which a retail margin has been benchmarked

Jurisdiction	Distribution zone	Customer type	Tariff	Annual consumption
NSW	Ausgrid	Residential	Without controlled load	3,900 kWh
	Ausgrid	Residential	With controlled load	4,800 kWh plus 2,000 kWh controlled load
	Ausgrid	Small business		10,000 kWh
NSW	Endeavour Energy	Residential	Without controlled load	4,900 kWh
	Endeavour Energy	Residential	With controlled load	5,200 kWh plus 2,200 kWh controlled load
	Endeavour Energy	Small business		10,000 kWh
NSW	Essential Energy	Residential	Without controlled load	4,600 kWh
	Essential Energy	Residential	With controlled load	4,600 kWh plus 2,000 kWh controlled load
	Essential Energy	Small business		10,000 kWh
Qld	Energex	Residential	Without controlled load	4,600 kWh
	Energex	Residential	With controlled load	4,400 kWh plus 1,900 kWh controlled load
	Energex	Small business		10,000 kWh
SA	SA Power Networks	Residential	Without controlled load	4,000 kWh
	SA Power Networks	Residential	With controlled load	4,200 kWh plus 1,800 kWh controlled load
	SA Power Networks	Small business		10,000 kWh

Note: The annual consumption for each tariff as set out in Table 5 is based on a 365-day year.

Source: AER, Default market offer prices 2023-24: Final determination, May 2023, page 58; AER, Default market offer prices 2024-25, Issues paper, October 2023, page 27

5.1 High level overview

In broad terms, we have benchmarked the retail margin for each type of retail tariff, for each customer type, for each distribution zone (in dollar terms) by:

1. Estimating the total retail bill at the commencement of DMO 5 for each retail market offer for each type of retail tariff, for each customer type, for each distribution zone.
2. Deconstructing the total retail bill by deducting, for each retail market offer, the wholesale energy costs, environmental costs, network costs and retail operating costs estimated by the AER for the DMO 5 prices.
3. Benchmarking the resultant retail allowances for each type of retail tariff, for each customer type, for each distribution zone.

We have calculated the retail margin using GST inclusive prices and costs.

Each of these steps is described in more detail in the following sections.

5.2 Step 1: Estimating the total retail bill

We estimated the total retail bill by multiplying each of the retail market offers by the relevant consumption, adjusting for any discounts that are applicable to that retail tariff, excluding any upfront costs for advanced (or smart meters) and removing any outliers.

We excluded the following from our analysis:

— standing offer tariffs

— duplicate tariffs

— tariffs that were offered to a narrow group of customers, for example, employees

— tariffs targeted to new customers, on the basis that these could be loss leaders as part of an acquisition strategy

— tariffs for small business customers with a consumption significantly higher than assumed in the analysis

— tariffs for customers with an electric vehicle as the consumption will be significantly higher than assumed in the analysis

— time of use tariffs.

The data on each of the retail market offers were sourced from AER's Energy Made Easy portal.

We calculated the retail margin using the market offers that were effective as close to the commencement of the DMO 5 determination as possible. The more time that elapses between the making of the DMO 5 determination, the more the projected wholesale energy costs may vary from those included in the DMO 5 determination, and the higher the error calculating the retail margin using this methodology. We used retail market offers that were effective between 1 July 2023 and 31 August 2023, and excluded those that were valid for a period of less than 2 weeks.

5.2.1 Relevant consumption

The consumption for each tariff for a 365-day year is set out in Table 5.1. We have undertaken the benchmarking of retail market offers for DMO 6 based on tariffs for DMO 5, which apply in a leap year (366 days). Accordingly, we have increased the consumption used in the analysis by dividing by 365 (to get a daily consumption) and multiplying by 366.

We used the same annual usage allocations for controlled load, as used in determining the DMO 5 prices. These are set out in Table 5.2.

Table 5.2 Controlled load (CL) annual usage allocations

Jurisdiction	Distribution zone	CL1 only	CL2 only	CL1 and CL2	
				CL1	CL2
NSW	Ausgrid	100%	100%	67%	33%
NSW	Endeavour Energy	100%	100%	67%	33%
NSW	Essential Energy	100%	100%	77%	23%
Qld	Energex	100%	100%	29%	71%
SA	SA Power Networks	100%	N/A	N/A	N/A

Source: AER, Default market offer prices 2023-24: Final determination, May 2023, page 65

5.2.2 Adjusting for discounts

Many retailers offer incentives and discounts. Retailer incentives can be in the form of, for example, cash incentives, frequent flyer points or percentage discounts on customer bills. Some incentives are unconditional on customer actions while other incentives are contingent on customers paying their bills on time, agreeing to online billing or paying via direct debit. The length of time over which discounts to bills are applied can be limited and some discounts are only available when the contract is first entered into (upfront discounts).

In calculating customers' retail electricity bills, we factored in all quantifiable conditional discounts that are available to customers. We amortised upfront discounts over a period consistent with the rate of customer switching. We estimated the rate of customer switching based on the average annualised transfer rate from July 2022 to June 2023 (refer Table 5.3).

Table 5.3 Average annualised transfer rate, 2022-23

Jurisdiction	Distribution zone	Average annualised transfer rate
NSW	Ausgrid	19.2%
NSW	Endeavour Energy	
NSW	Essential Energy	
Qld	Energex	13.6%
SA	SA Power Networks	17.4%

Source: ACIL Allen based on AEMO's Retail Transfer Statistical Data, available at https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/data-nem/metering-data/real-transfer-statistical-data

We also included annual membership fees, which are effectively negative discounts, but assumed that late payment fees and fees for paper bills do not apply. We assumed that any customer signing up to these particular offers would seek to avoid these extra charges. We also did not include fees for using various payment mechanisms on the basis that the costs would be approximately equal to the charge.

5.2.3 Excluding upfront smart meter costs

When determining the DMO 5 prices, the AER subtracted any upfront costs for smart or advanced meters and included an average of the remaining costs for smart meters in the DMO 5 price. We similarly deducted any upfront smart or advanced meter costs when estimating the total retail bill.

5.2.4 Removing outliers

We removed outliers from the analysis. Outliers were defined as those where the retail margin (as a percentage of the total bill) (after taking discounts into consideration) is more than two standard deviations from the mean for the relevant tariff group.

5.3 Step 2: Deconstructing the total retail bill

The total retail bill was deconstructed by deducting the wholesale energy costs, environmental costs, network costs and retail operating costs estimated by the AER for the DMO 5 prices. Each of these components is discussed in the following sections.

5.3.1 Wholesale energy costs

The wholesale energy cost component of each retail market offer was calculated by multiplying the wholesale energy costs (in $/ MWh) by the relevant consumption and adding GST. The wholesale energy costs for DMO 5 (in $/MWh) are set out in Table 5.4.

Table 5.4 Wholesale energy costs, DMO 5 (GST exclusive)

Jurisdiction	Distribution zone	Load type	Wholesale energy cost ($/MWh)
NSW	Ausgrid	Flat load	186.09
	Ausgrid	CL 1	111.95
	Ausgrid	CL 2	111.70
NSW	Endeavour Energy	Flat load	189.50
	Endeavour Energy	CL 1	177.78
	Endeavour Energy	CL 2	178.00
NSW	Essential Energy	Flat load	110.08
	Essential Energy	CL 1	110.08
	Essential Energy	CL 2	110.08
Qld	Energex	Flat load	167.03
	Energex	CL 1	112.52
	Energex	CL 2	119.80
SA	SA Power Networks	Flat load	226.13
	SA Power Networks	CL 1	110.75

Source: AER, Default market offer prices 2023-24: Final determination, May 2023, page 27

5.3.2 Environmental costs

The environmental cost component of each retail market offer was calculated by multiplying the environmental costs (in $/ MWh) by the relevant consumption and adding GST. The environmental costs for DMO 5 (in $/MWh) are set out in Table 5.5.

Table 5.5 Environmental costs, DMO 5 (GST exclusive)

Jurisdiction	Distribution zone	Load type	Environmental cost ($/MWh)
NSW	Ausgrid	Residential flat rate	18.68
	Ausgrid	Residential controlled load	18.71
	Ausgrid	Small business	18.71

Jurisdiction	Distribution zone	Load type	Environmental cost ($/MWh)
NSW	Endeavour Energy	Residential flat rate	18.80
	Endeavour Energy	Residential controlled load	18.80
	Endeavour Energy	Small business	18.80
NSW	Essential Energy	Residential flat rate	18.48
	Essential Energy	Residential controlled load	18.48
	Essential Energy	Small business	18.48
Qld	Energex	Residential flat rate	15.26
	Energex	Residential controlled load	15.26
	Energex	Small business	15.26
SA	SA Power Networks	Residential flat rate	19.33
	SA Power Networks	Residential controlled load	19.33
	SA Power Networks	Small business	19.33

Source: AER, Default market offer prices 2023-24: Final determination, May 2023, page 29

5.3.3 Network costs

We used the network costs estimated by the AER for the DMO 5 prices for the network cost component of each retail market offer. These are set out in Table 5.6.

Table 5.6 Total network costs, DMO 5 (GST inclusive)

Jurisdiction	Distribution zone	Load type	Total network cost ($)
NSW	Ausgrid	Residential flat rate	565
	Ausgrid	Residential controlled load	741
	Ausgrid	Small business	1,478
NSW	Endeavour Energy	Residential flat rate	679
	Endeavour Energy	Residential controlled load	812
	Endeavour Energy	Small business	1,303
NSW	Essential Energy	Residential flat rate	1,083
	Essential Energy	Residential controlled load	1,208
	Essential Energy	Small business	2,322
Qld	Energex	Residential flat rate	669
	Energex	Residential controlled load	754
	Energex	Small business	1,293
SA	SA Power Networks	Residential flat rate	843
	SA Power Networks	Residential controlled load	1,007
	SA Power Networks	Small business	2,022

Source: AER, Default market offer prices 2023-24: Final determination, May 2023, page 14

5.3.4 Retail operating costs

As set out in Table 5.7, the retail operating costs estimated by the AER for DMO 5 include four components:

- retail and other costs
- advanced meter costs
- bad and doubtful debt costs
- forecast CPI adjustment.

Table 5.7 Retail operating costs (GST exclusive)

Jurisdiction	Distribution zone	Retail and Other costs ($)	Advanced meter costs ($)	Bad and doubtful debts ($)	Forecast CPI adjustment ($)	Total ($)
Residential customers, with and without controlled load						
NSW	Ausgrid	135.65	19.54	19.17	17.38	191.73
NSW	Endeavour Energy	135.65	24.20	19.17	17.85	196.86
NSW	Essential Energy	135.65	20.43	19.17	17.47	192.71
Qld	Energex	128.26	25.59	19.17	17.25	190.27
SA	SA Power Networks	133.07	26.78	19.17	17.85	196.87
Small business customers						
NSW	Ausgrid	164.53	18.63	34.00	21.65	238.81
NSW	Endeavour Energy	164.53	18.01	34.00	21.59	238.12
NSW	Essential Energy	164.53	20.09	34.00	21.79	240.42
Qld	Energex	131.38	21.48	34.00	18.63	205.48
SA	SA Power Networks	145.45	20.95	34.00	19.98	220.38

Source: AER, Default market offer prices 2023-24: Final determination, May 2023, pages 37-38

We applied the forecast CPI adjustment to each of the other three components in proportion to the costs. We then deducted the advanced meter costs from the retail operating costs if the retail market offer:

- only applies to those on basic meters
- only applies to those with a smart or advanced meter
- includes an upfront advanced meter cost.

5.3.5 Retail margin

The retail margin remains once the wholesale energy costs, environmental costs, network costs and retail operating are deducted from the total retail bill.

5.4 Benchmarking the retail margins

We calculated the retail margin in two ways:

- as a percentage of the total retail bill (with discounts net off), that is, as a percentage of total costs inclusive of the margin
- as a percentage of the other costs, that is, as a percentage of total costs exclusive of the margin.

We calculated the average and maximum retail margin for each retailer for each type of retail tariff, for each customer type, for each distribution zone. We then weighted the retail margins based on the retailer's market share of residential or small business customers on market offers as reported in the AER's retail energy market performance report for Quarter 1, 2023-24.[82]

[82] Available at https://www.aer.gov.au/documents/schedule-2-quarter-1-2023-24-retail-performance-data.

6 Estimated reasonable retail margins

This chapter presents the results from the benchmarking of retail margins using the methodology described in Chapter 5.

6.1 Average retail margins by retailer

The average retail margins, by retailer, for each of the 15 tariffs, are presented graphically in Appendix A.

The average retail margins calculated vary significantly across retailers. Many of the tariffs with a low (negative) retail margin are offered by retailers with a very small market share. As a consequence, they do not contribute significantly to the retail margins when weighted by market share.

The retail margins could vary significantly as a result of, for example:

— Different arrangements the retailers have to purchase wholesale energy – if a retailer is able to purchase wholesale electricity at a cost that is significantly below that included in the DMO 5 price, then the retail margin will be higher than calculated using this methodology.

— Different average level of consumption by a retailer's customers – if the consumption varies from that assumed in the analysis, the ratio of fixed to variable costs will differ to that calculated using the methodology, and the actual margin may be higher or lower than calculated.

The retail margins calculated for residential customers are lower than those calculated for small business customers. This may be because the margins are higher, but also may be because, for example:

— The same wholesale electricity cost has been used to determine the DMO 5 prices for residential and small business customers. If the actual wholesale electricity cost varies between residential and small business customers, then this will increase the retail margin for one group of customers and decrease it for the other.

— The retail operating costs that have been used to determine the DMO 5 prices are similar for residential and small business customers. If the retail operating costs are actually lower for residential customers and higher for small business customers, the actual retail margin will be higher for residential customers than calculated using this methodology and lower for small business customers.

These effects will net out if the same approach to determining the cost components for the DMO 5 prices is used to calculate the cost components for the DMO 6 prices. For example, if the costs were under (or over) estimated for the DMO 5 prices, then the retail margin estimated using this methodology will be over (or under) estimated. If the same approach is used to estimate the cost

components for the DMO 6 prices, any error in those estimates will be netted out by an equal and opposite error in the retail margin estimate.

6.2 Weighted retail margins

As discussed in section 5.4, we have weighted the retailers' average retail margins based on the retailer's market share of residential or small business customers on market offers. The weighted average and maximum retail margins are set out in Table 6.1. We have provided both the weighted average and weighted maximum to inform the AER's decisions on an efficient margin and potential competition allowance.

Table 6.1 Retailers' average retail margins, weighted average and weighted maximum

Jurisdiction	Distribution zone	Weighted average		Weighted maximum	
		% of retail bill	% of costs	% of retail bill	% of costs
Residential customers without controlled load					
NSW	Ausgrid	2.2%	2.6%	6.4%	7.1%
NSW	Endeavour	3.1%	3.4%	7.4%	8.2%
NSW	Essential Energy	4.2%	4.6%	7.5%	8.3%
Qld	Energex	2.5%	2.7%	7.9%	8.6%
SA	SA Power Networks	0.7%	0.8%	6.1%	6.6%
Residential customers with controlled load					
NSW	Ausgrid	2.9%	3.2%	6.4%	7.1%
NSW	Endeavour	2.7%	3.0%	7.1%	8.0%
NSW	Essential Energy	4.1%	4.5%	7.4%	8.2%
Qld	Energex	5.0%	5.4%	9.9%	11.1%
SA	SA Power Networks	1.5%	1.6%	7.1%	7.7%
Small business customers without controlled load					
NSW	Ausgrid	16.0%	19.6%	18.1%	22.5%
NSW	Endeavour	12.4%	14.5%	14.5%	17.3%
NSW	Essential Energy	14.4%	17.0%	16.2%	19.6%
Qld	Energex	13.0%	15.3%	16.5%	20.3%
SA	SA Power Networks	10.7%	12.3%	13.4%	15.7%

Source: ACIL Allen

The AER has consulted on a number of potential changes to its methodology for estimating the wholesale energy costs for the DMO 6 prices.[83] If the methodology for estimating the wholesale energy costs for the DMO 6 prices changes from the methodology for estimating the wholesale energy costs for the DMO 5 prices, then the retail margins would need to be adjusted from those derived using DMO 5 cost components.

6.3 Comparison of retail market offers to DMO 5 prices

Table 6.2 compares the retail bills for the market offers included in the analysis to the DMO 5 prices, using the same consumption levels as used to determine the DMO 5 prices. The weighted

[83] Australian Energy Regulator, *Default market offer prices 2024-25, Issues paper*, October 2023, pages 9-15.

average retail bills are all below the DMO 5 prices. The weighted maximum retail bills for residential customers are below the DMO 5 prices except for customers with a controlled load in Essential Energy's distribution zone (although the increase is immaterial). The weighted maximum retail bills for small business customers are equal to or above the DMO 5 prices.

Table 6.2 Retailers' average retail margins, weighted average and weighted maximum

Jurisdiction	Distribution zone	DMO 5 price	Retail market offers		Discount to DMO 5 price	
			Weighted average	Weighted maximum	Weighted average	Weighted maximum
Residential customers without controlled load						
NSW	Ausgrid	$1,827	$1,699	$1,820	-7.0%	-0.4%
NSW	Endeavour	$2,228	$2,090	$2,221	-6.2%	-0.3%
NSW	Essential Energy	$2,527	$2,396	$2,520	-5.2%	-0.3%
Qld	Energex	$1,969	$1,852	$1,924	-6.0%	-2.3%
SA	SA Power Networks	$2,279	$2,158	$2.275	-5.3%	-0.2%
Residential customers with controlled load						
NSW	Ausgrid	$2,562	$2,397	$2,543	-6.4%	-0.7%
NSW	Endeavour	$2,977	$2,782	$2,969	-6.6%	-0.3%
NSW	Essential Energy	$2,977	$2,821	$2,981	-5.2%	0.1%
Qld	Energex	$2,363	$2,239	$2,354	-5.2%	-0.4%
SA	SA Power Networks	$2,787	$2,659	$2,783	-4.6%	-0.1%
Small business customers without controlled load						
NSW	Ausgrid	$4,999	$4,785	$5,005	-4.3%	0.1%
NSW	Endeavour	$4,598	$4,424	$4,611	-3.8%	0.3%
NSW	Essential Energy	$5,761	$5,562	$5,775	-3.5%	0.2%
Qld	Energex	$4,202	$4,070	$4,356	-3.1%	3.7%
SA	SA Power Networks	$5,849	$5,582	$5,849	-4.6%	0.0%

Source: ACIL Allen

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Appendices

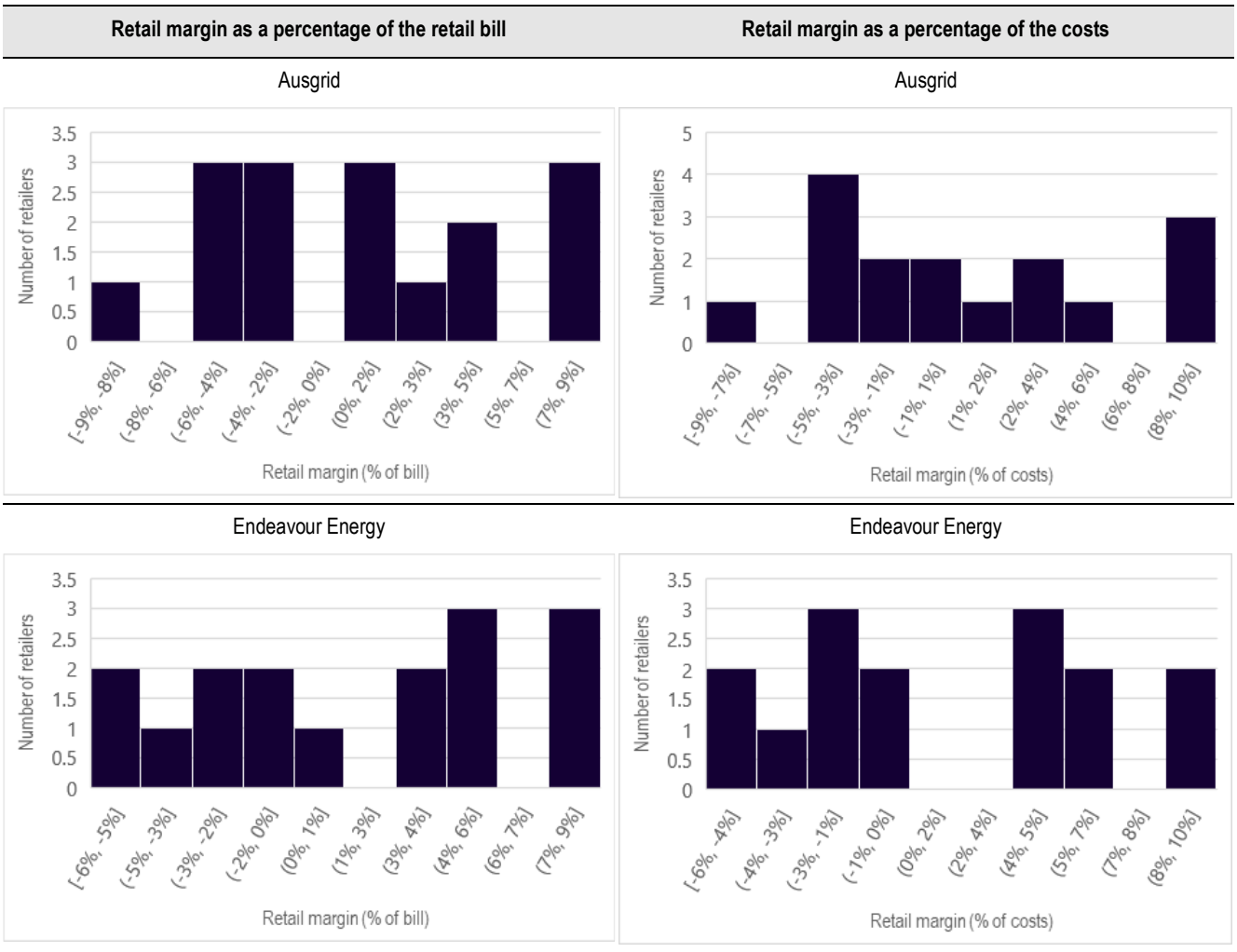
Average retail margins by retailers

A

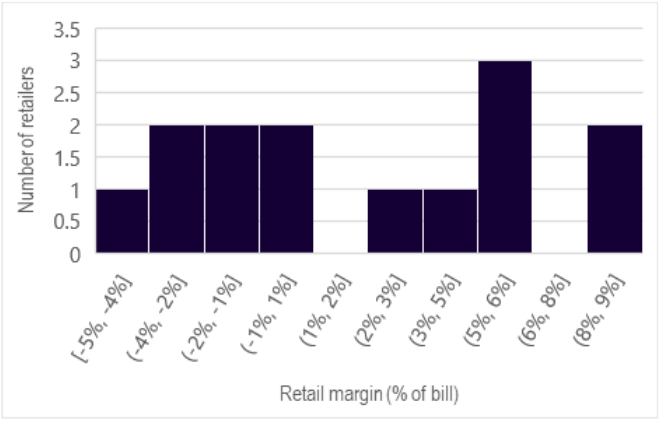
A.1 Residential customers without controlled load

Figure A.1 shows the distribution of the retailers' average retail margins that have been calculated using the methodology described in Chapter 5 for residential customers without controlled load, by distribution zone. The retail margin is presented as a percentage of the retail bill (total costs including the margin) in the left column and as a percentage of the costs (total costs excluding the margin) in the right column.

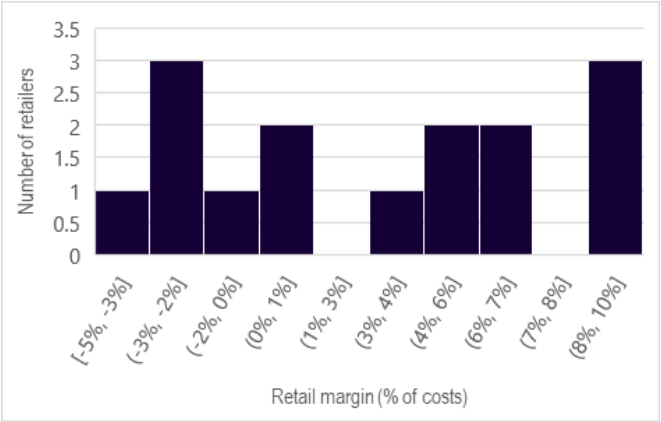
Figure A.1 Distribution of retailers' average retail margins, residential customers without controlled load



Essential Energy



Essential Energy



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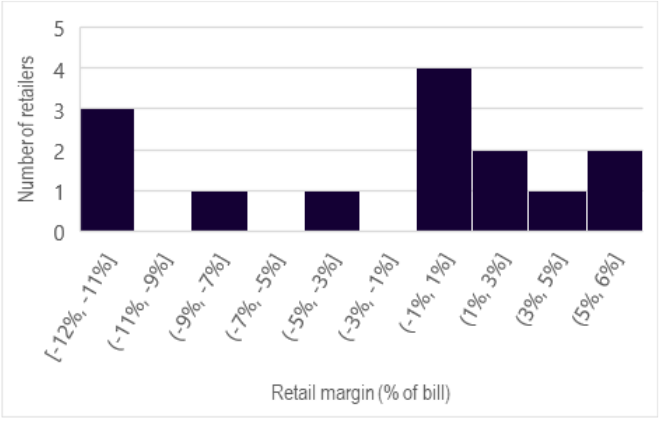

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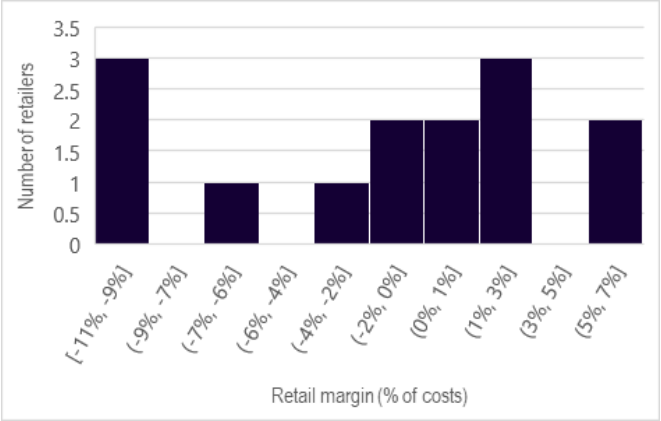

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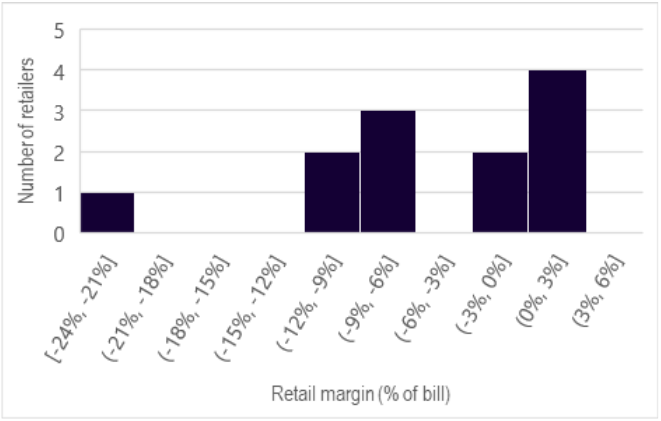

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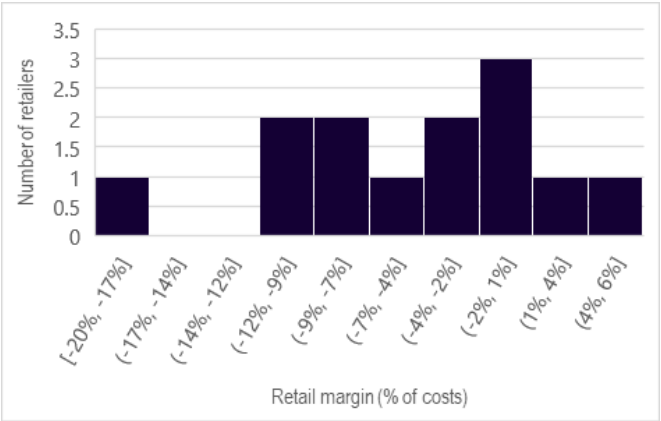
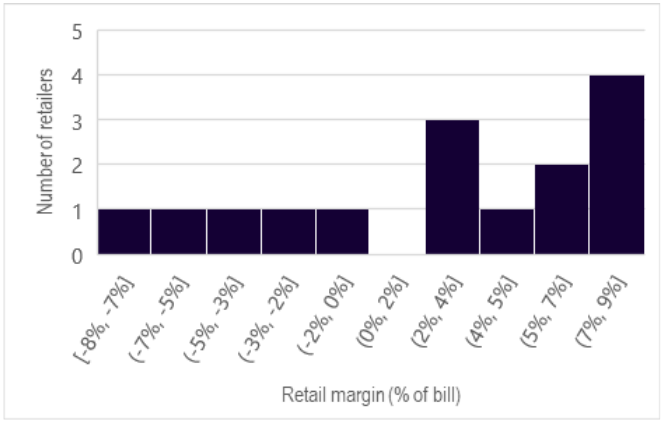
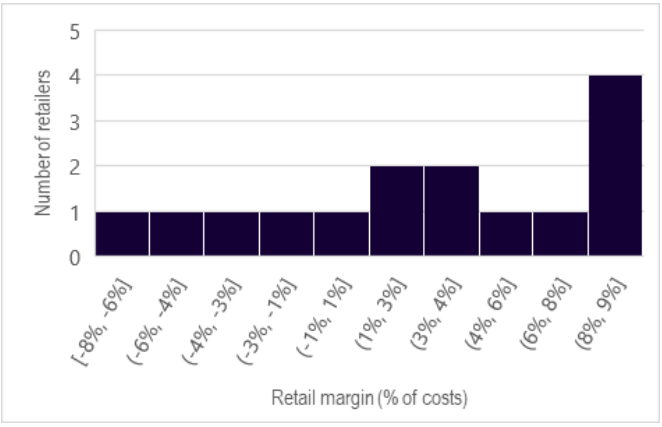
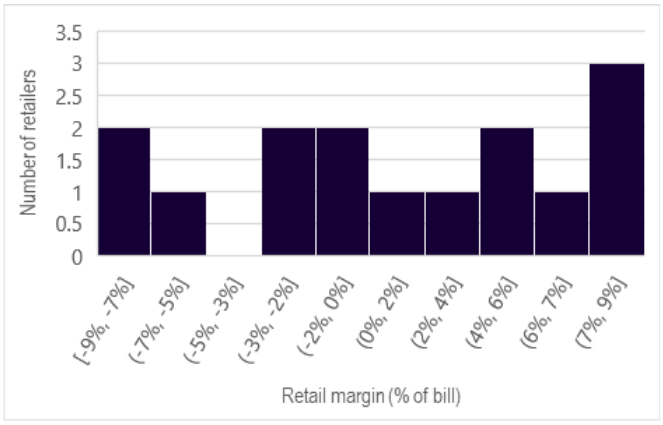
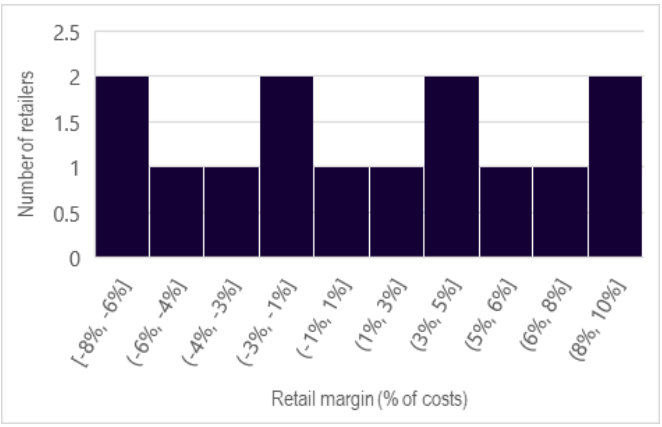
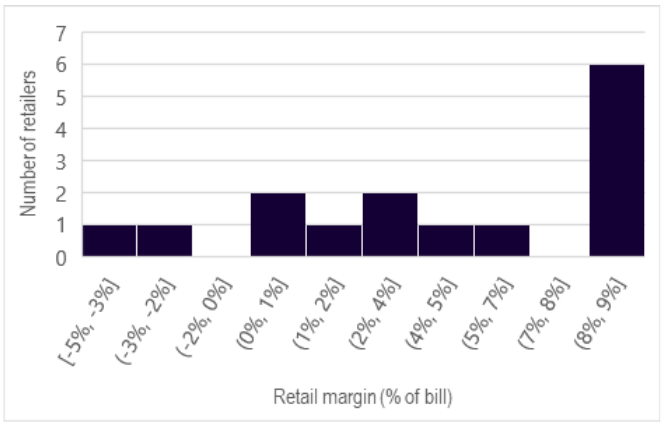
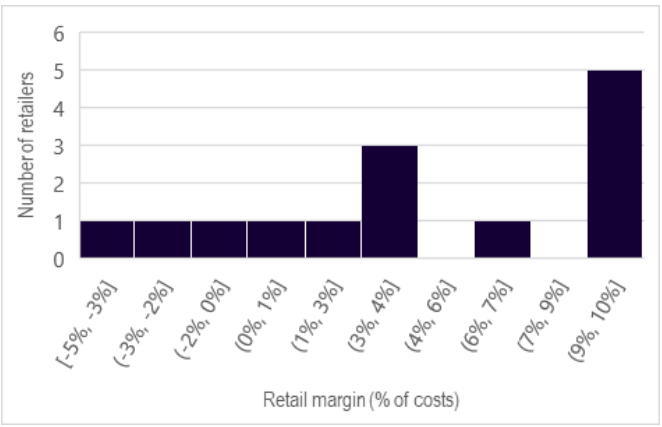


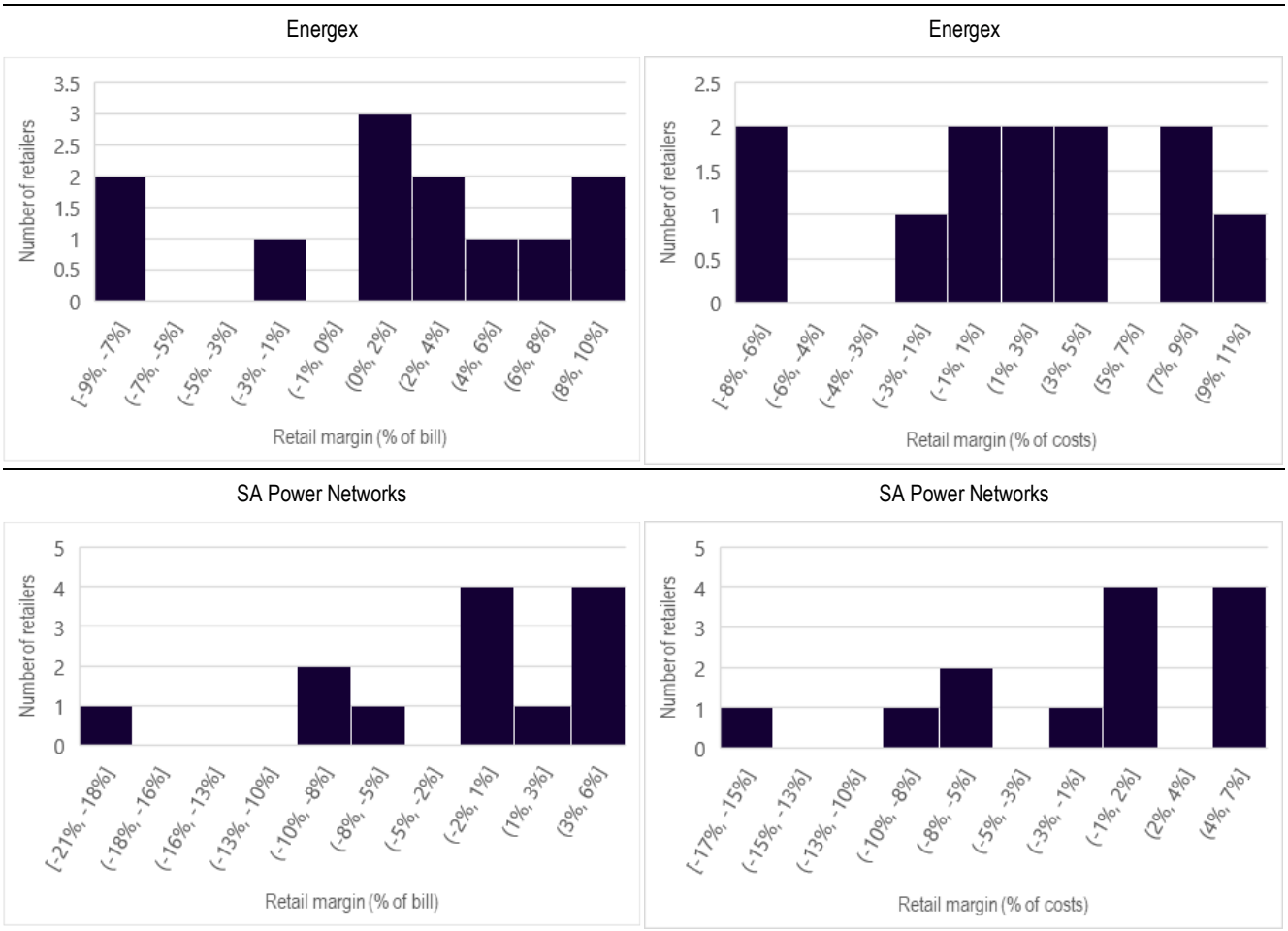
Source: ACIL Allen

A.2 Residential customers with controlled load

Figure A.2 shows the distribution of the retailers' average retail margins that have been calculated using the methodology described in Chapter 5 for residential customers with controlled load, by distribution zone. The retail margin is presented as a percentage of the retail bill (total costs including the margin) in the left column and as a percentage of the costs (total costs excluding the margin) in the right column.

Figure A.2 Distribution of retailers' average retail margins, residential customers with controlled load

Retail margin as a percentage of the retail bill	Retail margin as a percentage of the costs
Ausgrid	Ausgrid
	
Endeavour Energy	Endeavour Energy
	
Essential Energy	Essential Energy
	



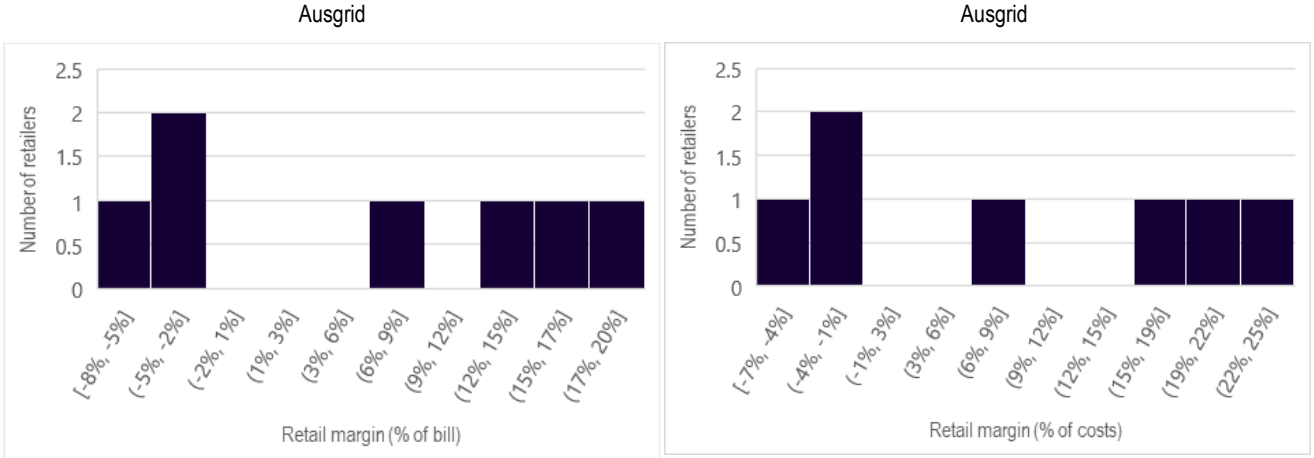
Source: ACIL Allen

A.3 Small business customers

Figure A.3 shows the distribution of the retailers' average retail margins that have been calculated using the methodology described in Chapter 5 for small business customers without controlled load, by distribution zone. The retail margin is presented as a percentage of the retail bill (total costs including the margin) in the left column and as a percentage of the costs (total costs excluding the margin) in the right column.

Figure A.3 Distribution of retailers' average retail margins, small business customers without controlled load

Retail margin as a percentage of the retail bill	Retail margin as a percentage of the costs



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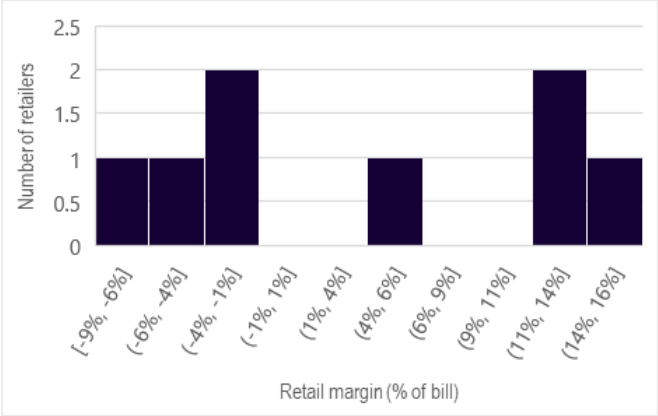
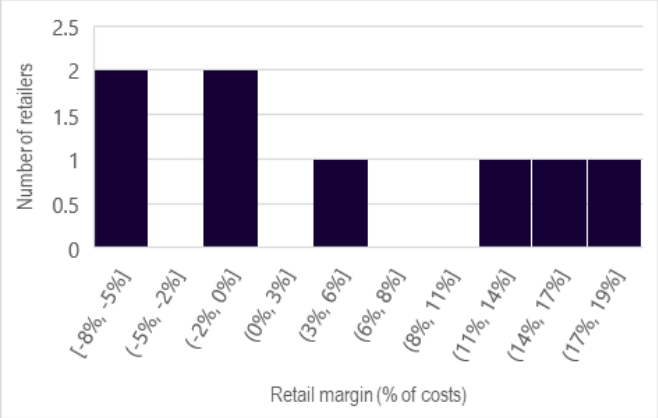


Endeavour Energy



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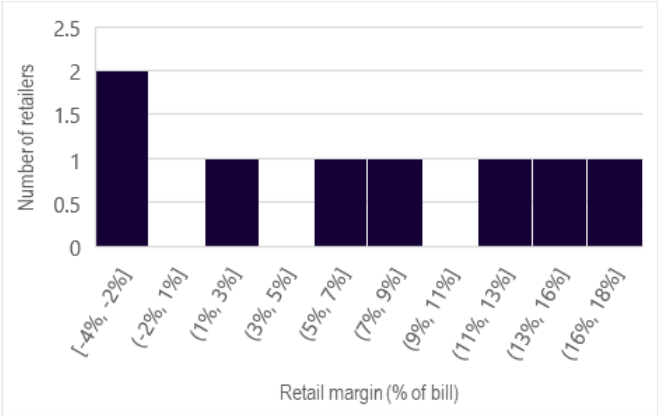
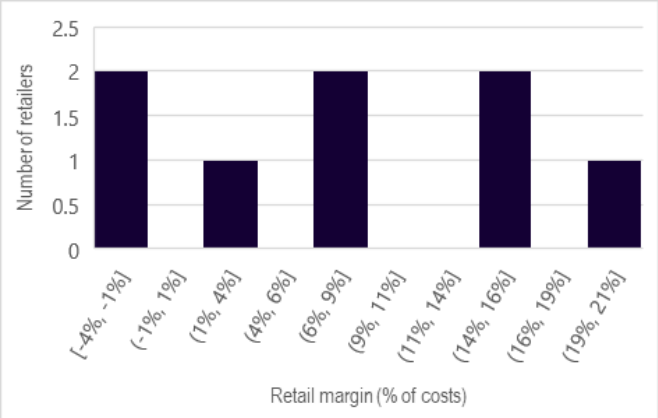
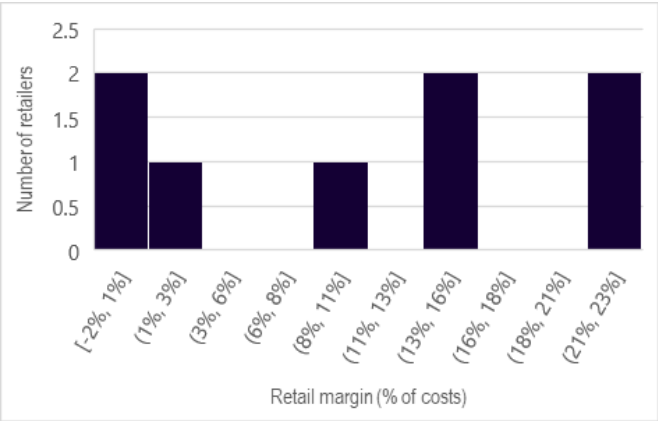


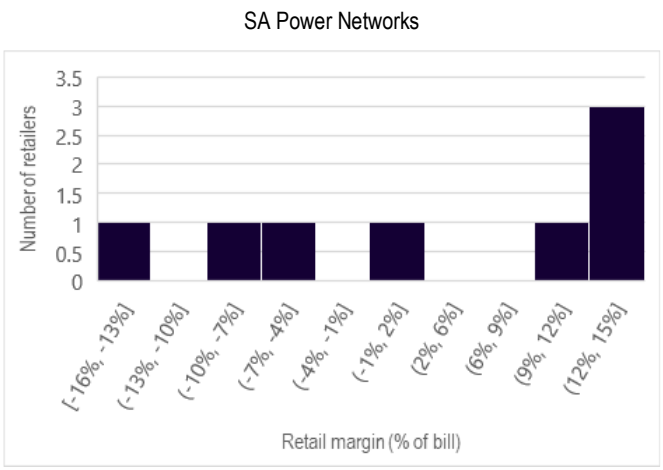
Essential Energy

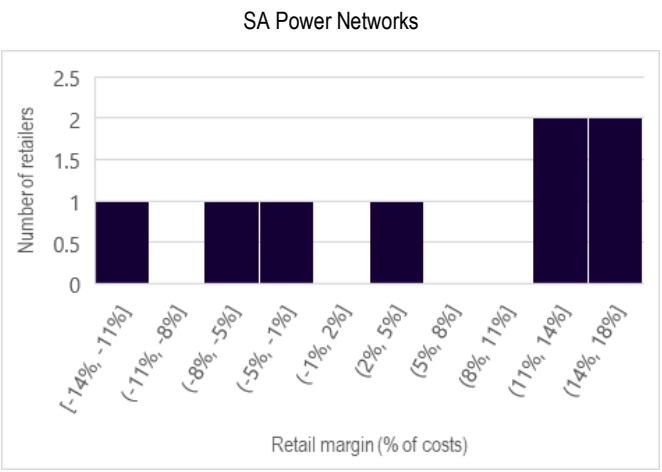


Energex

Energex







Source: ACIL Allen

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