

HOUSTONKEMP
Economists

Implications of the ICRC's changed approach to the retail margin

Report for ActewAGL Retail

27 April 2017

Report Author/s

Brendan Quach

Ann Whitfield

Contact Us

Sydney

Level 40
161 Castlereagh Street
Sydney NSW 2000

Phone: +61 2 8880 4800

Singapore

8 Marina View
#15-10 Asia Square Tower 1
Singapore 018960

Phone: +65 6817 5010

Disclaimer

This report is for the exclusive use of the HoustonKemp client named herein. There are no third party beneficiaries with respect to this report, and HoustonKemp does not accept any liability to any third party. Information furnished by others, upon which all or portions of this report are based, is believed to be reliable but has not been independently verified, unless otherwise expressly indicated. Public information and industry and statistical data are from sources we deem to be reliable; however, we make no representation as to the accuracy or completeness of such information. The opinions expressed in this report are valid only for the purpose stated herein and as of the date of this report. No obligations is assumed to revise this report to reflect changes, events or conditions, which occur subsequent to the date hereof. All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the client.

Contents

1.	Introduction and summary	1
1.1	Summary of findings	1
1.2	Structure of this report	2
2.	Context	3
2.1	The AEMC's advice on best practice methodology	3
2.2	Independent Pricing and Regulatory Tribunal 2013-16 decision	4
2.3	Queensland Competition Authority 2016-17 determination	5
2.4	ICRC 2014 final decision	6
2.5	ICRC 2017 draft decision	7
3.	The ICRC draft decision is based on an incorrect premise	9
3.1	Costs to be compensated via the retail margin	9
3.2	Changes in the costs recovered via the retail margin are not correlated with changes in the CPI	10
3.3	The ICRC's proposed approach therefore fails to have sufficient regard to the cost recovery requirements in the ICRC Act	13
4.	The ICRC approach has no empirical support	15
4.1	The SFG Consulting analysis underpinning the earlier retail margin was predicated on the retail margin being a percentage of total sales	15
4.2	The ICRC methodology is out of step with the approach adopted by other jurisdictional regulators	17

Figure

Figure 1: The ICRC's small customer pricing model 2014-17	6
Figure 2: ICRC's proposed costs components for 2017-18 (per MWh)	7
Figure 3: Cost components compensated by the retail margin	10

Tables

Table 1: Approach adopted by other regulators to setting the retail margin	18
--	----



1. Introduction and summary

This report has been prepared at the request of ActewAGL Retail. The context of our report is the draft decision made by the Independent Competition and Regulatory Commission (ICRC) on standing offer prices for the supply of electricity to small customers from 1 July 2017.¹ Specifically ActewAGL Retail has asked HoustonKemp to assess the adequacy of the ICRC's draft decision to change the methodology for determining the retail margin, in light of the factors that may be expected to affect the costs recovered by the margin, the rationale provided by the ICRC and the approach adopted by other regulators.

The ICRC's draft decision proposes to maintain the real dollar value of the 2016-17 retail margin in per MWh terms. This contrasts with the approach previously adopted by the ICRC whereby the retail margin was calculated as a fixed percentage of total costs excluding the retail margin allowance, and so under which the resulting per MWh retail margin would fluctuate with changes in wholesale energy costs, network costs and retail costs.

The ICRC's proposed change in approach results in a decrease in the retail margin allowed for ActewAGL Retail from the 6.04 per cent allowed in the ICRC's previous decision to 5.49 per cent (in ex-ante terms).

1.1 Summary of findings

Our key findings can be summarised as follows:

- the only justification provided by the ICRC in the draft decision for its proposed change in approach to calculating the retail margin allowance is the unsupported assertion that the components of the retail margin are likely to move broadly in line with changes in the Consumer Price Index (CPI).
- the draft decision on the retail margin is not supported by any economic rationale, nor any financial modelling, market data or other evidence, which is inconsistent with the Australian Energy Market Commission (AEMC)'s 2013 Best Practice Methodology for estimating the retail margin.
- we find that there is no basis for concluding that the costs recovered via the retail margin are increasing broadly in line with the increase in CPI. Our analysis of the costs recovered by the retail margin instead finds that:
 - > the retailer's working capital costs are directly related to the total revenues and expenses of the business, which will reflect changes in wholesale energy costs;
 - > the value of the customer asset base (a retailer's key intangible asset) is primarily linked to customer numbers and the expected retention period for customers;
 - > the depreciation of a retailer's tangible assets, such as billing and IT systems, is unlikely to change in line with CPI, as competitive businesses do not maintain indexed asset values and instead generally depreciate assets on a straight line (nominal) basis or a declining balance approach; and
 - > the return on capital is linked to the systematic risk of the retailer's cash flows and changes in financial market conditions, which are not expected to be correlated with changes in CPI.
- the ICRC's proposal to fix the real per MWh value of the retail margin exposes ActewAGL Retail to the possibility that it will not recover its costs, given the expected increase in its cashflows over the 2017-20 period:
 - > the ICRC's failure to explicitly examine the cost drivers relating to the various elements of the retail margin is in contravention to the requirements in the ICRC Act for it to have regard to the cost of

¹ ICRC, *Standing offer prices for the supply of electricity to small customers from 1 July 2017 | Draft report (the "draft decision")*, March 2017.

providing the regulated service, as well as an appropriate rate of return and the cash flow requirements of the business.

- further, the ICRC's draft decision to break the link between the retail margin and the cash flows of the retailer results in the 2017-20 retail margin no longer being supported by any empirical foundation:
 - > the ICRC's 2014 decision ultimately relied on the results of an SFG Consulting study commissioned by IPART to justify the retail margin allowance for ActewAGL Retail;
 - > each of the approaches adopted by SFG Consulting in its study estimated the retail margin as a percentage of total sales. The analysis therefore only provides evidence of the retail margin as a percentage of sales of a benchmark efficient retailer, and so is inconsistent with the ICRC's assumption in the draft decision that these costs are constant in real dollar per MWh terms;² and
 - > as a result, the draft decision to provide a retail margin of 5.49% in 2017-18 is no longer supported by the SFG Consulting analysis.
- we also find that the ICRC's approach in the draft decision is an outlier, with all other jurisdictional regulators that continue to regulate retail energy prices effectively providing a retail margin as a percentage of the retailer's total costs.
 - > this approach is a deliberate decision by other regulators with, for example, the QCA stating that:³

Conceptually, we consider it reasonable to assume that variable retail costs (including the required margin) would increase as underlying costs increase. This is because retailers face greater risk as underlying costs (and customer bills) increase—retailers should be compensated for this additional risk.

1.2 Structure of this report

The remainder of our report is structured as follows:

- section 2 sets out the context for this report and summarises decisions by jurisdictional regulators on the retail margin component of regulated electricity tariffs, including the ICRC's 2014 decision and its recent 2017 draft decision;
- section 3 sets out the cost components that are intended to be recovered by the retail margin in the context of the ICRC's draft decision and highlights that changes in the costs of each of these elements are not expected to be correlated with changes in CPI, and
- section 4 identifies that the ICRC's proposed 2017-20 retail margin is no longer supported by any empirical analysis, and that the ICRC's approach is inconsistent with that adopted by all other regulators.

² We note that the SFG report translates its estimate of the retail margin of 5.7 per cent into both a \$/customer (\$125/customer) and a \$/MWh (\$11.62/MWh) amount. However, these values have been derived from the percentage estimate and the assumed costs of a benchmark retailer in 2013 and the translation is only valid for that point in time.

³ QCA, *Regulated retail electricity prices for 2016-17 | Final determination*, May 2016, p. 119.

2. Context

Regulators in NSW, Queensland, Tasmania and the ACT currently determine the maximum price for energy customers on default (non-competitive) retail tariffs. Of these regulators, only IPART (the NSW regulator) and the Queensland Competition Authority (QCA) have undertaken detailed analysis of the appropriate retail margin for a benchmark efficient retailer.⁴

This section summarises:

- the advice from the Australian Energy Markets Commission (AEMC) on the best practice for establishing the appropriate retail margin;
- the analysis undertaken by IPART and the QCA in estimating an appropriate retail margin; and
- the approach adopted by the ICRC to establishing the retail margin in 2014 and in its current draft decision.

2.1 The AEMC's advice on best practice methodology

In 2013 the AEMC was asked by the then Standing Council on Energy and Resources (SCER)⁵ to provide advice on the best practice methodology for setting regulated retail energy prices. The AEMC published its advice in September 2013.

By articulating a stable and clear objective for retail price regulation, the AEMC stated that it aimed to assist regulators in making subsequent decisions about how retail energy prices should be regulated. The AEMC expressed the view that, where a regulated retail price is maintained, a stable regulatory framework and method is important for the effective operation of the competitive wholesale and retail sectors.

As part of its advice, the AEMC describes the role of the retail margin as follows:⁶

The retail margin represents the return that a retailer requires to attract sufficient capital in order to finance the ongoing operation of its business. This includes compensation for both the capital associated with the business, and the risks associated with the investment.

The AEMC did not prescribe a method for setting the retail margin in its advice. Instead it provided:

- an objective for calculating the retail margin, ie:⁷

The retail 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.
- and
- a series of high level principles that jurisdictional regulators should have regard to in making their decision on the retail margin, specifically:⁸
 - 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; and

⁴ The regulators in both Tasmania and the ACT have to date relied on estimates of the retail margin adopted by other regulators, rather than commissioning their own analysis.

⁵ Now the COAG Energy Council.

⁶ AEMC 2013, *Advice on best practice retail price methodology, Final Report*, 27 September 2013, p. 64

⁷ *Ibid*, p. 68.

⁸ *Ibid*, p. 69.

- 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.

This objective and the high level principles implicitly endorse the approach taken by IPART to setting the retail margin in its various determinations on regulated energy prices, which:

- had regard to three independent methods for estimating the retail margin of a benchmark retailer;
- included parameters that had been specified using prevailing financial market data; and
- coherently managed the interrelationship between related parameters - for example IPART specified a weighted average cost of capital that rationally managed the interrelationship between debt and equity.

IPART's approach is discussed below.

2.2 Independent Pricing and Regulatory Tribunal 2013-16 decision

IPART currently regulates the retail prices for the supply of natural gas to small customers and, until 1 July 2014, also regulated the retail price for (non-competitive) retail electricity customers.⁹

IPART has adopted a common approach to estimating the retail margin for both electricity and gas retail price regulation. This approach relies on analysis in expert reports provided by SFG Consulting. In both cases IPART applies the retail margin to the value of the retailer's total sales.

IPART's analysis of the appropriate retail margin for a benchmark retailer is of particular importance since the ICRC relied on the research undertaken for IPART by SFG Consulting to determine the appropriate retail margin to apply to ActewAGL Retail in 2014. It is this value that the ICRC is now proposing to hold constant in real per MWh terms (see section 2.4).

IPART stated in its 2013 determination for electricity that the retail margin must compensate retailers for the systematic risks they face in providing regulated retailing services. These systematic risks include:¹⁰

- The risk of variation in the regulated load profile (ie, that the actual regulated load profile is different to that assumed in setting regulated tariffs, but still within the normal range). The variation attributed to economic conditions is systematic.
- The risk of variation in wholesale electricity spot and contract prices (ie, that actual wholesale price outcomes are different to those assumed in setting regulated tariffs, but still within the normal range). The variation attributed to economic conditions is systematic.
- General business risk (ie, that actual costs and revenues are different to those assumed in setting regulated tariffs due to factors such as unexpected changes in interest rates or exchange rates, equipment failures, or fraud).

SFG Consulting's report to IPART undertakes three separate approaches to estimating the retail margin for a benchmark retailer. These approaches are:¹¹

- the **expected returns approach** that estimates the expected cash flows that an electricity retailer will earn, and determines a retail margin that ensures these expected cash flows compensate the retailer for the systematic risks of those cash flows;
- a **benchmarking study** of a broad class of listed retailers in the United States, United Kingdom, Australia, Canada and New Zealand; and

⁹ IPART, *Review of regulated retail prices and charges for gas from 1 July 2016 | Final Report*, June 2016.

¹⁰ IPART, *Review of regulated retail prices and charges for electricity | From 1 July 2013 to 30 June 2016 | Final report*, June 2013, p. 88.

¹¹ Each of these techniques is discussed in greater detail in section 4.1 of this report.

- a **bottom-up approach** which relies on assumptions of the retailer's asset base as well as forecasts of its operating costs, to compute earnings and revenue which allow the retailer to earn an expected return on assets equal to its estimated cost of capital.

SFG Consulting estimated the retail margin as the ratio of the benchmark retailer's earnings before interest, tax, depreciation and amortisation to sales (EBITDA/sales). This is consistent with the specification of the pricing models used by IPART, and by the ICRC prior to the current draft decision.¹²

IPART states that the bottom-up and expected returns approaches:¹³

did not include an allowance for non-systematic energy purchase risk or customer acquisition costs – these have each been addressed elsewhere in the cost allowances.

... depreciation has not been compensated for in the retail cost allowance but is included as a component of the retail margin, making EBITDA the appropriate comparator.

SFG Consulting's recommended range for the retail margin provided by the three approaches was 5.3 per cent to 6.1 per cent of a retailer's total electricity sales (EBITDA). SFG Consulting's recommended retail margin was the mid-point of this range, ie, 5.7 per cent.¹⁴

IPART accepted SFG Consulting's recommendation and set a retail margin equal to 5.7 per cent on an ex-post basis (ie, the margin was applied to the retailer's total sales).

2.3 Queensland Competition Authority 2016-17 determination

Since 1 July 2016, the QCA only determines regulated retail electricity prices for regional Queensland. Retail electricity prices in south east Queensland were deregulated from 1 July 2016.¹⁵

Specifically, the QCA estimates a single retailing operating cost (ROC) function that compensates the benchmark retailer for the costs associated with:

- customer administration;
- call centres;
- corporate overheads;
- billing and revenue collection;
- IT systems;
- regulatory compliance; and
- customer acquisition and retention costs (CARC).

In contrast to the ICRC's pricing model, the QCA's ROC cost function covers both retail costs and the retail margin.

The ROC cost function was estimated for the QCA's 2016 determination by ACIL Allen Consulting, using a benchmarking approach that looked at the costs of Australian energy retailers. The ROC cost function contains a fixed and variable component. The QCA comments in its determination that the costs that would normally be recovered via the retail margin are incorporated in the variable component of the ROC

¹² This point is discussed in greater detail in section 2.4 of this report.

¹³ IPART, *Retail competition and investment in the NSW electricity industry | Regulated electricity retail tariffs and charges for small customers 2007 to 2010 | Final Report and Final Determination*, June 2007, pp. 108-109.

¹⁴ IPART, *Review of regulated retail prices and charges for electricity | From 1 July 2013 to 30 June 2016 | Final report*, June 2013, p. 94.

¹⁵ QCA, *Regulated retail electricity prices for 2016-17 | Final determination*, May 2016.

function.¹⁶ Relevantly, the QCA highlighted that this treatment means that the retailer continues to be compensated for increases in underlying costs:

... if wholesale energy costs or network charges increased, the variable retail costs would also increase, as it is derived as a percentage of underlying costs. This is consistent with how the retail margin was applied in previous years.

The QCA's stated reason for including the retail margin costs in the variable component of the ROC function was that:¹⁷

Conceptually, we consider it reasonable to assume that variable retail costs (including the required margin) would increase as underlying costs increase. This is because retailers face greater risk as underlying costs (and customer bills) increase—retailers should be compensated for this additional risk.

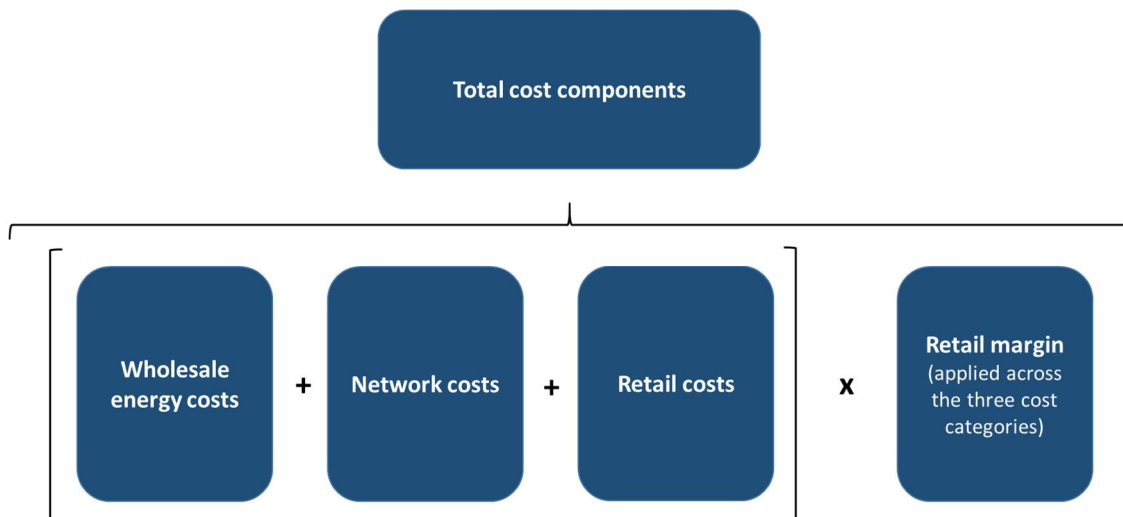
2.4 ICRC 2014 final decision

The ICRC in 2014 adopted an approach that was broadly similar to that adopted by IPART in its 2013 decision, which was to apply a percentage retail margin to the sum of the following costs components:

- wholesale energy costs, including energy purchasing costs, Large-Scale Renewable Energy Target (LRET) and Small-Scale Renewable Energy Scheme (SRES) costs, energy losses, energy contracting costs and National Electricity Market fees;
- network costs; and
- retail costs, which include retail operating costs and the costs of the Energy Efficiency Improvement Scheme (EEIS).

This approach is depicted in Figure 1.

Figure 1: The ICRC's small customer pricing model 2014-17



¹⁶ QCA, *Regulated retail electricity prices for 2016-17 | Final determination*, May 2016, p. 119.

¹⁷ QCA, *Regulated retail electricity prices for 2016-17 | Final determination*, May 2016, p. 119.

The ICRC adopted a retail margin of 6.04 per cent (in ex-ante terms), which was equivalent to the 5.7 per cent (ex-post) retail margin determined by IPART. The ICRC justified this approach on the basis of the extensive analysis that underpinned IPART's determination of the retail margin:

The Commission is of the view that it is appropriate to apply the outcomes of the recent extensive analysis undertaken by IPART and SFG to the ACT.¹⁸

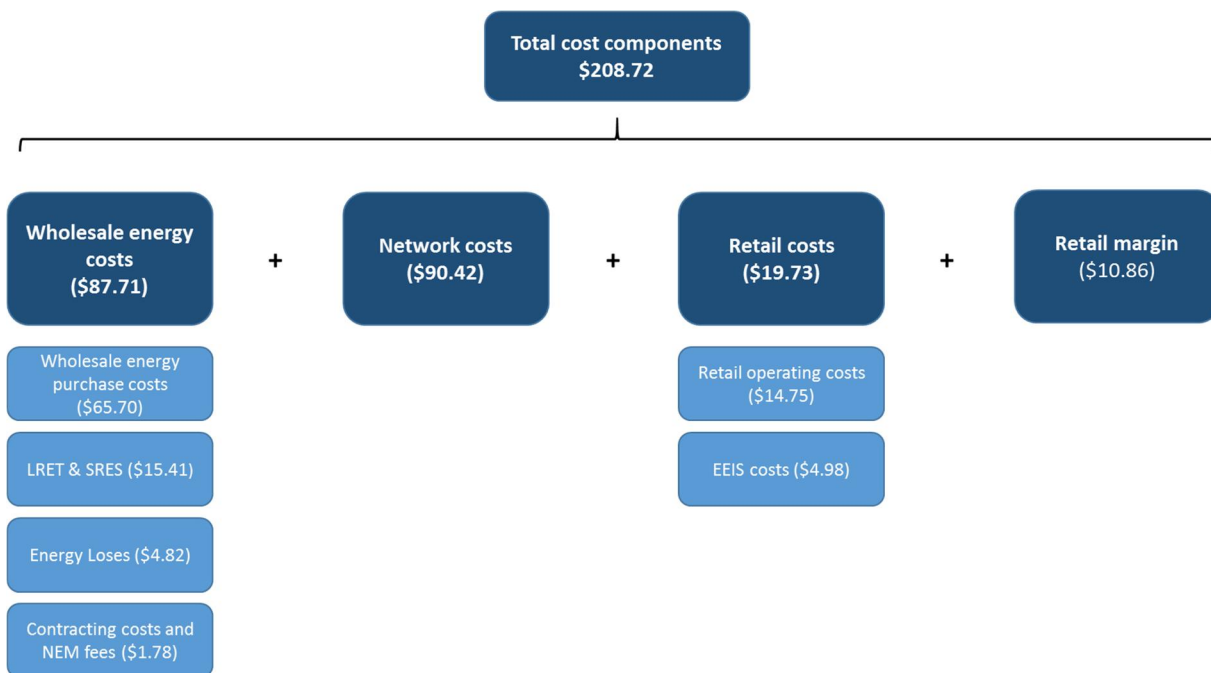
The Commission's final decision is to apply a retail margin of 6.04 per cent in ex ante terms. This is equivalent to a retail margin of 5.7 per cent applied ex post.¹⁹

We note that an ex-ante percentage retail margin is applied to total costs *excluding* those relating to the retail margin, while an ex-post percentage retail margin is applied to total costs *including* the retail margin.²⁰

2.5 ICRC 2017 draft decision

The ICRC's 2017 price determination will apply to regulated electricity prices over the period 1 July 2017 to 30 June 2020. Figure 2 sets out the cost components in the ICRC's proposed pricing model for 2017-18.²¹

Figure 2: ICRC's proposed costs components for 2017-18 (per MWh)



The ICRC's recent draft decision proposes to maintain the real value of the dollar per MWh retail margin at the level determined for 2016-17, and to *add* this value to the other cost components in the retail pricing model. This approach represents a substantial departure from the previous approach adopted by the ICRC

¹⁸ ICRC, *Standing offer prices for the supply of electricity to small customers | Draft report*, February 2014, p. 93.

¹⁹ ICRC, *Standing offer prices for the supply of electricity to small customers | Final report*, June 2014, p. 34.

²⁰ The ICRC's 2014 draft decision expressed the retail margin on the same ex post basis as IPART (ie, a value of 5.7 per cent). However, in its final decision, the ICRC expressed the retail margin in ex ante terms.

²¹ The ICRC's proposed pricing model determines the maximum average percentage change that ActewAGL Retail can apply to its suite of regulated electricity tariffs on an annual basis. The maximum average percentage change in tariffs for 2017-18 is computed as the percentage change in the estimated total cost (per MWh) of the supply of electricity to small customers on ActewAGL Retail's regulated tariffs from 2016-17 to 2017-18.

as well as that adopted by all other jurisdictional regulators, which is to calculate and apply the retail margin as a *percentage* of overall retail costs.

The ICRC's rationale for its proposed change in methodology is set out in a single paragraph in its draft determination.²²

If retail costs and the components of the retail profit margin are actually increasing broadly in line with CPI increases but the margin is applied to a cost base that is increasing at a materially higher rate, then the dollar value of the retail margin will be increasing at a rate that exceeds what is needed to ensure reasonable cost recovery and a reasonable profit margin. In the current circumstances energy purchase costs and national renewable energy costs are increasing at rates well in excess of the CPI or operating costs generally in the economy. If the current approach to allowing for a retail profit margin is applied, it seems most likely that ActewAGL Retail would receive too high a profit allowance from the regulated retail electricity price.

The ICRC's proposed approach is to maintain the real value of the per MWh retail margin going forward. In other words, the proposed approach implicitly assumes that the costs recovered via the retail margin are broadly moving in line with CPI increases and the growth in electricity supplied to standing offer customers.

The ICRC's proposed approach results in a decrease in the retail margin from 6.04 per cent to 5.49 per cent (in ex-ante terms). As a result, the draft decision changes both the methodology for setting the retail margin and the amount of compensation that the ActewAGL Retail would receive for supplying standing offer customers.

²² ICRC, *Draft decision*, March 2017, p. 39.

3. The ICRC draft decision is based on an incorrect premise

The central tenet underpinning the ICRC's draft decision to change the approach to calculating the retail margin is that:²³

If retail costs and the components of the retail profit margin are actually increasing broadly in line with CPI increases ...

The ICRC provides no evidence for this assertion, nor any economic rationale or analysis as to why the components of the retail margin may be expected to vary in line with CPI increases.

The remainder of this section:

- sets out the cost components recovered via the retail margin; and
- highlights that movements in these cost components are in fact *uncorrelated* to movements either in CPI or the volume of energy supplied and, in some cases, are more closely correlated with the total costs of the retailer.

The ICRC's proposal to fix the real per MWh value of the retail margin therefore exposes ActewAGL Retail to the very real possibility that it will not recover its costs, given the expected increase in its cashflows over the 2017-20 period. The ICRC's failure to explicitly examine the cost drivers relating to the various elements of the retail margin is in contravention to the requirements in the ICRC Act for it to have regard to the cost of providing the regulated service, as well as an appropriate rate of return and the cash flow requirements of the business.

3.1 Costs to be compensated via the retail margin

The retail margin compensates ActewAGL Retail for costs that are not provided for by the other cost components in the pricing model.

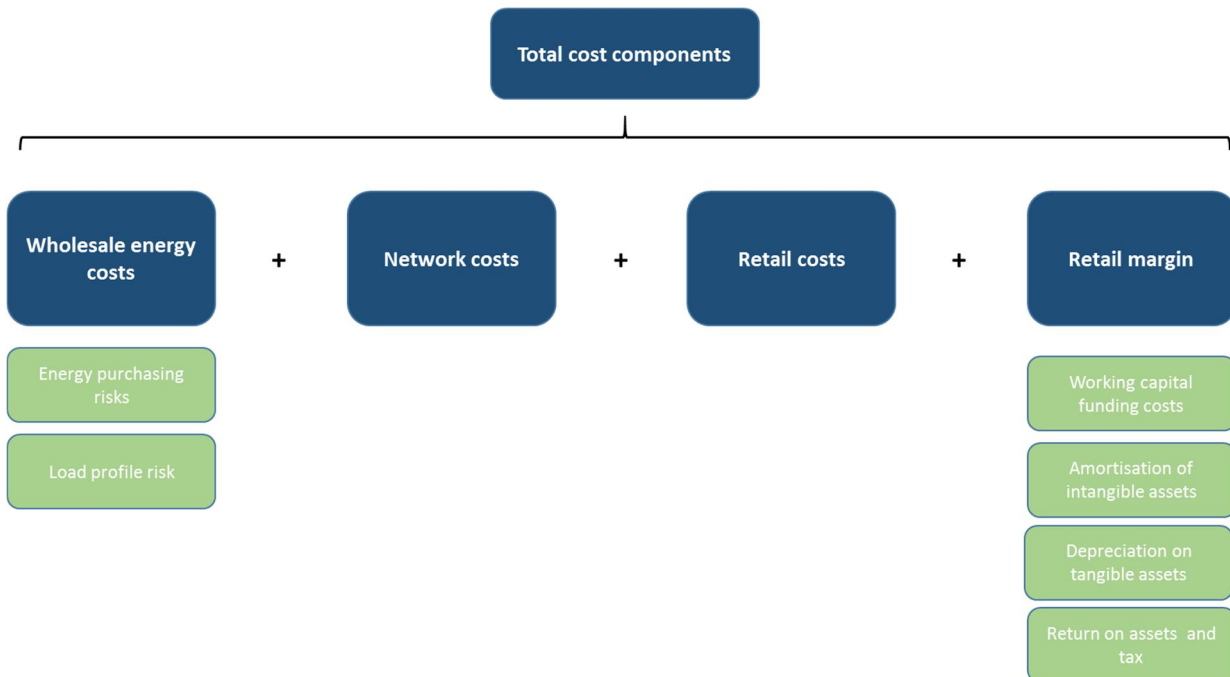
Figure 3 shows the costs recovered via the retail margin.

The four main cost components compensated for by the retail margin in the ICRC's model relate to:

- the funding requirement for working capital;
- amortisation of intangible assets, primarily relating to the value of ActewAGL Retail's customer base;
- the depreciation on tangible assets, such as billing and IT systems; and
- a return on assets, which would include any company income taxes and interest costs.

²³ ICRC, *Draft decision*, March 2017, pp. 39-40.

Figure 3: Cost components compensated by the retail margin



We note that the ICRC's approach of compensating for depreciation as part of the retail margin is consistent with that adopted by IPART.

We also note that the ICRC's approach to estimating wholesale energy costs mitigates some of the risks associated with energy purchasing and load profile risk (which would otherwise need to be compensated for via the retail margin). Again, this is consistent with IPART's estimation of the retail margin for regulated energy tariffs in NSW, which also does not include an allowance for non-systematic energy purchase risks.²⁴

Relevantly, the wholesale pricing model used by the ICRC in its draft decision is essentially the same as the model it adopted for the 2014-15 to 2016-17 period. As a result, the costs to be recovered via the retail margin in the 2017-20 period are commensurate with those estimated by the ICRC in 2014.

3.2 Changes in the costs recovered via the retail margin are not correlated with changes in the CPI

Contrary to the ICRC's assertion, there is no reason to think that all of the cost components of the retail margin move in line either with CPI or the volume of electricity supplied.

Below we discuss the drivers of the various cost components of the retail margin, and find that they are in fact uncorrelated with changes in CPI. Moreover, in the case of working capital, these costs will instead move in line with a retailer's overall costs.

3.2.1 Working capital requirement

Working capital funding requirements are a cost of conducting business and represent one of the main non-operating costs of an electricity retailer. Working capital is generally defined as the difference between a retailer's current assets and current liabilities. The need for working capital arises due to a timing difference

²⁴ IPART, *Retail competition and investment in the NSW electricity industry | Regulated electricity retail tariffs and charges for small customers 2007 to 2010 | Final Report and Final Determination*, June 2007, pp. 108-109.

between accounts receivable (payments received from standing offer customers) and accounts payable (payments made to suppliers such as networks and energy purchasing costs).

Working capital represents a significant cost to a retailer as costs such as wholesale energy purchases must be settled daily, whilst the revenue from small customers is billed in arrears, typically monthly or even quarterly.

The costs associated with a firm's working capital will be a function of:

- the retailer's total sales (ie, accounts receivable) and total costs (ie, accounts payable);
- the average collection days for accounts receivable and average payment days for accounts payable (which will also reflect the level of bad debts); and
- the rate of return on assets.

None of these cost drivers are related to changes in CPI. Rather, there is direct link between a firm's working capital costs and the cash flows of the business. That is, working capital costs will increase proportionally with a rise in a firm's costs (such as an energy purchasing costs and network costs) and its revenues. If a retailer's costs and revenues increased by 20 per cent, other things being equal, its working capital costs would also rise by 20 per cent, and not by the increase in CPI.

Although changes in total electricity volumes can be one driver of changes in cashflows, the value at which energy is purchased and supplied is also a key determinant, and may change even where the total volume of sales stays the same. The combined CPI and electricity volume drivers proposed by the ICRC for the retail margin do not therefore capture the factors that in practice affect a retailer's working capital costs.

3.2.2 Amortisation of intangible assets

An intangible asset is an asset that is not physical in nature, and includes assets such as patents, copyrights, goodwill and brand values.

Retail businesses typically have small tangible asset bases, particularly compared to network businesses. The AEMC observed that the primary assets of a retailer are its intangible assets, in the form of its customer base.²⁵

This observation is supported by the analysis undertaken by SFG Consulting of acquisitions of Australian energy retailers, which found that these businesses had substantial asset values (up to \$2.3 billion for Origin Energy) with SFG Consulting concluding that retailers have implied values of \$1,141 per customer or \$89 per MWh.²⁶

The value of intangible assets is generally not directly observable and therefore must be estimated. One method for estimating the intangible value of a retailer's customer base is to estimate the costs of acquiring new customers. This estimated value is then amortised over the period that the customer is expected to be retained by the retailer.

The cost of acquiring the retailer's customer base are a function of:

- the number of customers of the retailer;
- the costs of acquiring customers;
- the average expected retention period of customers; and
- the rate of return on assets.

²⁵ AEMC, *Advice on best practice retail price methodology | Final report*, 27 September 2013, p. 66.

²⁶ SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, 4 June 2013, p. 25.

The amortised cost of the customer base is not related to changes in CPI and electricity volumes. Instead it is related to the number of customers, and the average retention period for a customer, while changes in acquisition costs are commonly linked to labour prices associated with the costs of call centres.

3.2.3 Depreciation of tangible assets

Tangible assets are physical assets that provide a necessary input into the provision of regulated retailing services. Assets are depreciated over their economic life. Depreciation allocates the purchase cost to each year that the asset is used and reflects the reduction in the asset's value. The depreciation expense is not recovered in the retailing operating cost component of the ICRC's pricing model, and so must be compensated for in the retail margin.²⁷

An electricity retailer's primary tangible assets relate to its IT and billing systems. While there are many approaches to determining the depreciation expense, the most common methods are:

- nominal straight line approach – where the annual depreciation expense is calculated by dividing the purchase costs by the number of years that the asset is expected to be used; or
- a declining balance – where the annual depreciation expense is calculated by multiplying the remaining asset value by a fixed percentage.

Both these methods comply with the requirements for determining a depreciation expense for tax purposes.²⁸

Under both of these approaches, the resulting depreciation allowance is unrelated to changes in the CPI and electricity volumes.

We note that a common depreciation approach applied to Australian regulated assets is real straight line depreciation applied to an indexed asset base. However, we understand that this is not a common method for determining the depreciation expense for competitive firms. Moreover, even under this approach the depreciation allowance would not rise in line with CPI.²⁹

3.2.4 Return on assets

A firm needs to earn a return on assets to incentivise it to invest in the assets necessary to provide regulated electricity services. Since debt and equity finance is normally used to finance investments, the return on assets must be sufficient to cover:

- the interest costs on any debt financing (ie, a return on debt);
- the profits payable to equity financing (ie, a return on equity); and
- any associated company income tax costs, necessarily incurred to provide a return on equity.³⁰

The return on assets will be a function of both the value of assets and the rate of return.

According to the theory of the capital asset pricing model (CAPM), the rate of return compensates a business for bearing systematic risks. IPART in its 2010 draft methodology report identified the following three risks that may have systematic components which need to be compensated for in the retail margin:³¹

²⁷ As noted earlier, this is consistent with the approach adopted by IPART.

²⁸ See ATO, Guide to depreciating assets 2016 (NAT 1996), June 2016.

²⁹ Net regulatory depreciation (ie, real straight line depreciation less the indexation of the asset base) rises at a rate substantially greater than CPI, as the indexation component falls through time (whilst the real straight line depreciation is constant in real terms).

³⁰ We note that in regulated infrastructure sector company income tax costs are commonly reduced for the expected value of any imputation credits created from the payment of company income tax.

³¹ IPART, *Review of regulated retail tariffs and charges for electricity 2010-2013 | Final Report*, March 2010, p. 128.

- The risk of variation in their regulated load profile due to changes in economic conditions that affect the demand for electricity. This may mean their actual regulated load profile is different to that assumed in setting regulated tariffs (but still within the normal range).
- The risk of variation in wholesale electricity spot and contract prices due to changes in economic conditions and demand. This may mean their actual energy purchase costs are different to those assumed in setting regulated tariffs (but still within the normal range).
- General business risk due to changes in economic conditions. This may mean that their actual costs and revenues are different to those assumed in setting regulated tariffs due to factors such as unexpected changes in interest rates or exchange rates, equipment failures, or fraud.

Intuitively these risks should be common to all electricity retailers as they are risks not specific to each retailer but are unavoidable and theoretically relate to the impacts on the business from changes in economic conditions. As a consequence, estimates of this risk made for other jurisdictions are likely to be equally applicable to the ACT. The ICRC's prior approach of looking to evidence of an appropriate retail margin in NSW is consistent with this view.

The rate of return will change through time to reflect prevailing financial market conditions and the underlying systematic risks associated with the provision of regulated electricity retail services. There is no basis for concluding that a retailer's systematic risks increase broadly in line with CPI changes or the volume of electricity supplied.

3.3 The ICRC's proposed approach therefore fails to have sufficient regard to the cost recovery requirements in the ICRC Act

In summary, the analysis above has highlighted that the drivers of changes in each of the cost components of the retail margin are uncorrelated with movements in CPI and electricity volumes:

- retailers' working capital costs are directly related to the overall cashflows of the business (ie, total revenues and expenses), and will increase proportionally with increases in a firm's costs (such as energy purchasing costs and network costs) and its revenues, rather than changes in CPI or electricity volumes;
- the value of the customer asset base (a retailer's key intangible asset) is primarily linked to customer numbers and the expected retention period for customers, neither of which are correlated with changes in CPI or electricity volumes;
- the depreciation of tangible assets, such as billing and IT systems, is unlikely to change in line with CPI, as competitive businesses do not maintain indexed asset values and instead generally depreciate assets on a straight line (nominal) basis or a declining balance approach; and
- the return on capital is linked to the systematic risk of the retailer's cash flows, and so will vary over time in line with changes in systematic risk and changes in financial market conditions, neither of which is expected to be correlated with changes in CPI or electricity volumes

In consequence, the assumption underpinning the ICRC's change in the methodology for setting the retail margin is incorrect. An approach based on fixing the real value of the margin in MWh terms will not therefore ensure that the retail margin component of the regulated retail price model will be sufficient to compensate the retailer for the actual changes in the costs it faces as its overall cashflows change. Indeed, the potential for such an approach to lead to retailers under-recovering their actual costs was explicitly recognised by SFG Consulting in its earlier report for IPART:³²

Holding the percentage EBIT margin constant means that if energy, network and operating costs rise over time, the dollar margin will also rise. An alternative approach is to hold a dollar margin constant or have it escalating at a growth rate, such as consumer price inflation. If estimation error is in proportion to costs, this alternative approach would expose retail businesses to increased risk over time that the margin is insufficient to cover their costs.

³² SFG Consulting, *Methodology for estimating retail electricity margins*, Draft, 31 October 2012, p. 2.

The ICRC's proposed change in methodology for setting the retail margin is inconsistent with the requirement in the ICRC Act that the ICRC is to have regard to 'the cost of providing the regulated service',³³ as the ICRC has failed to examine how the various cost components making up the retail margin may change over time. The proposed change also fails to have sufficient regard to the other, more specific, requirements in the ICRC Act that the ICRC consider:³⁴

- an appropriate rate of return on any investment in the regulated industry - since the return allowed on tangible assets will no longer be set by reference to the underlying systematic risk and financial market conditions; and
- the borrowing, capital and cash flow requirements of people providing regulated services and the need to renew or increase relevant assets in the regulated industry (emphasis added) – since the working capital element of the margin has been decoupled from the underlying cashflows.

³³ Independent Competition and Regulatory Commission Act 1997, section 20 (2)(e).

³⁴ Independent Competition and Regulatory Commission Act 1997, section 20 (2)(d)(i).

4. The ICRC approach has no empirical support

As noted in section 2.5, the ICRC's explanation in its draft decision for its proposed change in approach to calculating the retail margin is limited to a single paragraph. In this paragraph, the ICRC states that:³⁵

If retail costs and the components of the retail profit margin are actually increasing broadly in line with CPI increases but the margin is applied to a cost base that is increasing at a materially higher rate, then the dollar value of the retail margin will be increasing at a rate that exceeds what is needed to ensure reasonable cost recovery and a reasonable profit margin.

This statement appears to represent the full extent of the analysis undertaken by the ICRC to explain the proposed change from calculating the retail margin as a fixed percentage of costs excluding the retail margin, to a constant real dollar per MWh margin.

The absence of detailed analysis supporting this decision is inconsistent with the AEMC's Best Practice Methodology. As noted in the previous section, the ICRC provides no evidence in support of its contention that the components of the retail profit margin move in line with changes in CPI and electricity volumes. Moreover, its decision to break the link between the retail margin and the cashflows of the retailer means that the earlier SFG Consulting study no longer provides empirical support for the ICRC's proposed margin. As a consequence, the 5.49 per cent (ex ante) retail margin proposed by the ICRC for 2017/18 is not grounded in any estimation technique, any financial model or any market data.

Moreover, the ICRC's approach is out of step with all other jurisdictional regulators.

This section highlights that:

- the three different approaches adopted by SFG Consulting estimated the retail margin as a percentage of total sales, and therefore lend no empirical support to the ICRC's draft decision to set a constant retail margin in real dollar per MWh terms; and
- the approach adopted by all other regulators that currently determine the retail margin for energy retailers effectively provides a retail margin as a percentage of total costs.

4.1 The SFG Consulting analysis underpinning the earlier retail margin was predicated on the retail margin being a percentage of total sales

The ICRC's draft decision states that the retail margin for 2017-18, expressed in terms of EBITDA/cost excluding the retail margin, is forecast to be 5.49 per cent - a fall from the 6.04 per cent provided for in 2016-17 standing offer prices. The absence of any additional analysis by the ICRC means that the proposed 2017-18 retail margin is effectively unsupported by any evidence.

Crucially, the ICRC's draft decision fundamentally breaks the link between the cash flows of the retailer and the required retail margin. This is inconsistent with the analysis undertaken by SFG Consulting that was previously relied on by the ICRC to set the retail margin from 1 July 2014 to 30 June 2017. Specifically, the SFG Consulting analysis only provides information on the retail margin as a percentage of total revenues,

³⁵ ICRC, *Draft decision*, March 2017, pp. 39-40.

and concluded that the best estimate of EBITDA/sales for a retailer is 5.7 per cent (which is equivalent to the ICRC's EBITDA/cost excluding the retail margin of 6.04 per cent).^{36, 37}

The 2014 SFG Consulting study estimates EBITDA/sales using the following three approaches, consistent with its approach in 2007 and 2010:³⁸

- the expected returns methodology that estimates the expected cash flows for a retailer and the systematic risk associated with these cash flows, and then determines a margin that compensates investors for this risk;
- a benchmarking approach which estimates the retail margins of comparative firms; and
- a bottom-up approach which used market transaction data to estimate a representative firm's asset base and an appropriate return.

The following sections describe in greater detail how each of the approaches adopted by SFG Consulting calculates the retail margin as a percentage of sales, and explains why the approach provides no support for the ICRC's presumption that the retail margin is constant in real dollar per MWh terms.

4.1.1 Expected return methodology

The first approach that SFG Consulting used to estimate the retail margin for an electricity retailer is a function of the following three components:³⁹

- cost of capital assumptions – the risk-free rate of interest, debt margin, market risk premium, systematic risk of returns as measured by the equity beta, financial leverage, corporate tax rate, and the value of imputation credits;
- economic assumptions – the standard deviation of percentage change in volume in response to economic conditions and the standard deviation of market returns; and
- operating leverage as measured by the proportion of costs which increase at a constant rate with changes in volume.

The retail margin was computed using the mid-points of the assumptions for each of these components. Further, SFG Consulting then estimated a reasonable range using scenario analysis that adopts different assumptions for each three components, ie, a high-point, mid-point and low-point.

In its 2013 study, SFG Consulting predicts an EBITDA/sales margin of between 3.5 to 4.7 per cent.⁴⁰

However, importantly, SFG Consulting provided estimates of the retail margin using its expected returns methodology to IPART in 2007, 2010 and 2013. Each of these estimates applied prevailing financial market conditions and best estimates of the other cost components of a benchmark retailer. This approach is inconsistent with the ICRC's assumption that the dollar per MWh retail margin is constant in real terms.

³⁶ We note that SFG Consulting's analysis of the retail margin was on an EBITDA/sales basis. This was converted by the ICRC in 2014 to an EBITDA/costs excluding the retail margin basis. See ICRC, *Standing offer electricity prices from 1 July 2014 | Final report*, June 2014, pp. 33-34.

³⁷ We note that the SFG report translates its estimate of the retail margin of 5.7 per cent into both a \$/customer (\$125/customer) and a \$/MWh (\$11.62/MWh) amount. However, these values have been derived from the percentage estimate and the assumed costs of a benchmark retailer in 2013 and the translation is only valid for that point in time.

³⁸ SFG Consulting and Frontier Economics, *Mass market new entrant retail costs and retail margin*, March 2007; SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, 16 March 2010; and SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, 4 June 2013.

³⁹ SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, 4 June 2013, pp. 8-9.

⁴⁰ SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, 4 June 2013, p. 14.

4.1.2 Benchmark approach

The second approach SFG Consulting adopted to estimate EBITDA/sales of a benchmark retailer was to benchmark the retail margin of a range of retail businesses. The rationale for this approach is that a benchmark electricity retail business should face broadly similar systematic risks as other retail businesses.

SFG Consulting's study in 2013 analysed the EBITDA/sales ratio of 92 listed retailers in the United States, United Kingdom, Australia, Canada and New Zealand. SFG Consulting selected these firms on the basis that the companies were classified by FTSE as "Retail" and that for each firm there was publicly available data for the period 1980 to 2012. This resulted in a sample of 7,990 annual observations of the EBITDA/sales margins.⁴¹

Following the removal of outliers, SFG Consulting calculated that the EBITDA/sales margin was within the range of 6.3 to 6.6 per cent.⁴²

Importantly, the retail margin was directly estimated for each entity and each year as a function of total sales. SFG Consulting did not examine the retail margin for each entity on a time-series basis. Consequently, the analysis presented by SFG Consulting in its 2013 study cannot be used to draw conclusions in relation to the movement in retail margins through time. In order for the ICRC to confirm its presumption that retail margins are constant in real dollar terms, it would be necessary to undertake this type of time series analysis.

4.1.3 Bottom-up approach

SFG Consulting also estimated the EBITDA/sales margin of a benchmark retailer using a bottom-up approach. A bottom-up approach involves estimating the costs of a benchmark retailer, and then deriving the EBITDA/sales margin.

To compute the costs of the benchmark retailer SFG Consulting first estimated the value of the assets of a benchmark Australian electricity and gas business. SFG Consulting estimated the value of the benchmark retailer by reference to 12 transactions of Australian electricity and gas retailers over the 12-year period from 1999 – 2010. SFG Consulting estimated the value of a retailer as \$1,141 per customer and \$89 per MWh of equivalent energy.

SFG Consulting found that using a bottom-up approach resulted in a EBITDA/sales margins of 5.6 to 7.0 per cent.⁴³

Again this approach directly estimates the retail margin as a percentage of sales, and so provides no evidence of the retail margin on per MWh terms. Nor does the approach provide any basis for a conclusion that retail margins on a per MWh basis are increasing broadly in line with changes in CPI and sales volumes.

4.2 The ICRC methodology is out of step with the approach adopted by other jurisdictional regulators

The ICRC's draft decision to change the methodology for setting the retail margin from a percentage of overall costs is out of line with the approach adopted by all other Australian jurisdictional regulators. Table 1 shows uniformity in the method for setting the retail margin adopted by those regulators that still determine regulated standing offer prices for energy retailers.

⁴¹ SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, 4 June 2013, p. 19.

⁴² SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, 4 June 2013, p. 21.

⁴³ SFG Consulting, *Estimation of the regulated profit margin for electricity retailers in New South Wales*, 4 June 2013, p. 29.

Table 1: Approach adopted by other regulators to setting the retail margin

Regulator (Current)	Date	Industry	Method
ICRC	2014	Electricity	Percentage of sales (excluding the retail margin)
QCA	2016	Electricity	Margin is included in variable costs and is proportional to the total costs
IPART ⁴⁴	2016	Gas	Percentage of sales
OTTER ⁴⁵	2016	Electricity	Percentage of sales (excluding under/over adjustments)
Regulator (Expired)	Date	Industry	Method
IPART	2013	Electricity	Percentage of sales
ESCOSA ⁴⁶	2010	Electricity	Percentage of retail operating costs and wholesale energy costs

Table 1 shows that all regulators currently apply the retail margin as a percentage of the total costs of providing retailing services to standing offer customers (ie, including wholesale market costs). Further, prior to the removal of retail price regulation, regulators in other jurisdictions were also setting the retail margin as a percentage of costs.

The decision by other regulators to apply the retail margin to total costs, so that the allowance varies in line with changes in total costs, is a deliberate one:

... we have decided to set the retail margin as a fixed percentage of each retailer’s total costs (retail and network) for the determination period. ...

One consequence of setting the retail margin as a fixed proportion of costs is that the retail margin allowance (expressed as a dollar amount) increases whenever energy, retail and network costs increase.⁴⁷

Regulators’ stated reasons for adopting a retail margin that is a percentage of total costs include:

Conceptually, we consider it reasonable to assume that variable retail costs (including the required margin) would increase as underlying costs increase. This is because retailers face greater risk as underlying costs (and customer bills) increase—retailers should be compensated for this additional risk.⁴⁸

⁴⁴ IPART, *Review of regulated retail prices and charges for gas from 1 July 2016*, | *Final Report*, June 2016, p. 41.

⁴⁵ Office of the Tasmanian Economic Regulator (OTTER), *2016 Standing Offer Price Determination*, 5 May 2016, paragraph 7.

⁴⁶ ESCOSA, *2010 Review of Retail Electricity Standing Contract Price Path | Final Inquiry Report & Final Price Determination*, December 2010, p. A-94.

⁴⁷ IPART, *Review of regulated retail prices and charges for electricity | From 1 July 2013 to 30 June 2016 | Final Report*, June 2013, p. 96.

⁴⁸ QCA, *Regulated retail electricity prices for 2016-17*, May 2016, p. 119.

Finally, we also note that the ICRC's draft decision is inconsistent with the AEMC's Best Practice Methodology for setting regulated retail tariffs in so far as its decision on the retail margin because:

- the draft decision on the retail margin is not supported by any estimation technique, nor any financial modelling, market data or other evidence;
- the decision does not rely on any analysis of the required retail margin for a benchmark retailer in the circumstances of ActewAGL Retail, and so the draft decision does not reflect current best practice estimation techniques; and
- the draft decision to maintain the real per MWh retail margin was made without any regard to current financial market conditions, and, furthermore, the approach is incapable of incorporating information on prevailing retail margin costs.





HOUSTONKEMP

Economists

Sydney

Level 40
161 Castlereagh Street
Sydney NSW 2000

Phone: +61 2 8880 4800

Singapore

10 Marina View
#15-10 Asia Square Tower 1
Singapore 018960

Phone: +65 6817 5010