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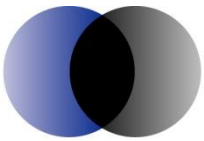
The standing contract price of gas in South Australia

A review of the economic principles underpinning aspects of the draft price determination for the standing contract price of gas

Prepared for the Essential Services Commission of South Australia

26 May 2011



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Executive summary

The Essential Services Commission of South Australia (the Commission) is charged with protecting the long term interests of South Australian consumers with respect to the price, quality and reliability of essential services.

It has a key role in oversighting and regulating retail market competition for small energy customers in South Australia and facilitating competitive energy markets is a priority. It is currently in the process of determining the gas standing contract price that will apply from 1 July 2011 to 30 June 2014.

In its draft determination the Commission's approach was that the cost of acquiring and retaining gas customers should be included in the standing contract price. It allowed for these on the basis that only acquisition costs that would be incurred by a dual fuel retailer that is already seeking to acquire electricity customers should be covered by the gas standing contract price. In other words, it accepted that there are economies of scope in acquiring dual fuel customers and that these should be reflected in the standing contract price of gas.

The Commission engaged ACIL Tasman to give its opinion regarding the economic principles underpinning this approach. In particular, the Commission required ACIL Tasman to test two key principles or assumptions, namely:

a) That it is not prudent for an energy retailer to seek to acquire gas customers in the South Australian retail energy market on a stand alone basis i.e. that a 'prudent' retailer will only seek to acquire gas customers on the basis that it is also seeking to acquire electricity customers, and

b) That the long term interests of South Australian energy consumers are best served by setting the gas standing contract price to recover only the incremental cost of acquiring gas customers.

Consistent with the Commission's draft determination, a prudent retailer is one that operates in an economically efficient way. Here, we follow the language in the Commission's draft determination and refer to an 'efficient' retailer.

In addition, ACIL Tasman was asked to provide a methodology for analysing retailer costs given the above principles, based on information gathered during the current Inquiry and having regard to other relevant information.

Whether it would be prudent to acquire gas customers on a stand alone basis

An efficient retailer is, by definition, one that puts its resources to their most profitable use. In other words it is a profit maximising retailer.

ACIL Tasman considers that an efficient retailer in South Australia would not take a 'gas only' approach. To refrain from retailing electricity in addition to gas is to refrain from pursuing a profitable activity. This is not something that an efficient retailer would do. Rather, we would expect any new entrant into energy retailing to enter as either an electricity only retailer or as a dual fuel retailer, for the following reasons.

Electricity is the dominant fuel. There are many more electricity customers, and the level of revenue available to be earned in electricity retailing is significantly more than that available from gas retailing. At the same time, entry is cheaper for electricity retailing than gas, due to the nature of the National Electricity Market. By contrast to electricity, the cost of accessing gas in South Australia tends to limit gas retailing to large, integrated energy companies.

Indeed, due to low penetration and low average consumption, SA is the least attractive jurisdiction within the NEM to retail on a gas only basis, which makes the likelihood of gas only entry in SA especially unlikely given the absence of gas only entry elsewhere.

The presence of economies of scope in acquiring gas and electricity customers further strengthens our conclusion. This means, by definition, that having incurred the costs necessary to acquire customers for one fuel, a retailer is able to acquire customers for the second fuel more cheaply than it otherwise could. In other words, it is cheaper to recruit a customer's 'second fuel' business if you are already targeting their 'first fuel' business.

Given that economies of scope exist in acquiring customers, a retailer of *either* electricity or gas is at a competitive disadvantage in recruiting customers when compared to a retailer of *both* of these fuels. This competitive disadvantage will mean that, as competition intensifies in the electricity retail market, a single fuel retailer is at risk of being 'left behind', less able to acquire customers than its competitors.

ACIL Tasman's view that efficient entry will be on the basis of electricity only or (increasingly) dual fuel retailing is supported by the existing structure of the market. There were no examples of gas only retailers in South Australia in 2010 and no such retailers have entered since that time. In fact ACIL Tasman is not aware that there has been a 'gas only' retailer in the market since full retail contestability was introduced in July 2004. Nor are there any 'gas only' retailers in other regions of Australia's National Electricity Market.

Whether the Commission's intended approach is in the long term interests of consumers

ACIL Tasman considers that the long term interests of consumers are best served by facilitating competition in the retail gas market and thereby encouraging economically efficient outcomes. Therefore, we consider that the Commission ought to set the gas standing contract price to mimic the outcome that would occur in a competitive market.

In making this assessment, we draw on the principles of efficient pricing in the face of economies of scale and/ or scope that were developed by Baumol and Willig. These principles are designed to mimic the constraints placed on firms by contestable markets, and ensure that firms do not earn more than a reasonable rate of return, as judged by the benchmark of an efficient new entrant. They state that the price of each service or set of services must be:

- *less than* the stand alone cost of supplying the services or set of services
- *more than* the incremental cost of supplying the services or set of services

This ensures that any economies of scope that arise from joint costs would be passed onto customers.

However, the Baumol Willig principles leave open the question of how the scope economies should be allocated or, in other words, which fuel should benefit from the reduced cost of acquiring customers. In our view, however, the Commission's approach of allocating the economies of scope entirely to electricity is appropriate for a number of reasons.

First, the stand alone cost of acquiring electricity customers was allowed under the electricity standing contract. Given this, the full value of the economies of scope should be passed onto the gas standing contract price. To do otherwise would allow monopoly rents to be included in the standing contract price of gas, because the economies of scope would be recovered twice.

Second, if the Commission were to determine that the economies of scope were to be shared with electricity, this could damage the ability of stand alone electricity retailers to compete.

Moreover, when one service is dominant, with decisions on entry being made on the basis of that service, all joint costs are properly allocated to it. Then, only incremental costs are allocated to other jointly produced services.

It is ACIL Tasman's view, therefore, that it is in the long term interests of customers for prices under the gas standing contract to recover only the incremental costs of acquiring gas customers (implying that the economies of scope are allocated entirely to gas customers).

Further, ACIL Tasman considers that the standing contract price proposed by the Commission is consistent with the competitive market price. This is evidenced by the fact that the prices observed in the market for contract gas in recent years lie below the Commission's proposed standing contract prices.

Methodology for implementing

Two conceptual approaches could be taken to estimating the relevant incremental cost. One approach would take the stand alone cost for gas retailing and deduct the economies of scope. The alternative approach is to estimate the incremental cost of the 'second fuel' customer acquisition costs directly (i.e. estimate the costs that are incremental to acquiring the customer's 'first fuel' account).

Origin's financial information regarding the retail operating costs of acquiring and serving customers does not distinguish between electricity and gas. Rather Origin has supplied forecasts of the average cost of serving and acquiring customers based on its national gas and electricity activities.

It would be possible to undertake a detailed bottom-up analysis of retail customer acquisition costs. This would involve requesting further information from Origin, with the information broken down into categories that enable analysis of cost drivers (and specifically the extent to which each category of cost is incurred jointly for electricity and gas or incrementally for gas). From that analysis it would be possible to estimate the likely extent of costs which are incremental to acquiring gas customers.

However, using the information provided previously by Origin, it is possible to conduct a broad sensibility check of the assumptions used by the Commission in the draft determination. The sensibility check involves combining the allowances made by the Commission regarding the customer acquisition costs for each type of customer, to create a weighted average which is comparable to Origin's average cost per customer. The result of the comparison is that the Commission's draft determination weighted average cost per customer is a little above Origin's forecast average acquisition cost for 2010/11. This supports our view that the Commission's approach to estimating the economies of scope is reasonable.

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1 Introduction

The Essential Services Commission of South Australia (the Commission) is charged with protecting the long term interests of South Australian consumers with respect to the price, quality and reliability of essential services. In doing this, it is required to have regard to a number of factors including the need to promote competitive and fair conduct, prevent the misuse of monopoly or market power, and promote economic efficiency and ensure that consumers benefit from that efficiency.

The Commission is currently in the process of determining the gas standing contract price that will apply from 1 July 2011 to 30 June 2014.

It has raised a key issue regarding the manner in which an allowance for the cost of retail operations [1] should be established, for incorporation into a revenue requirement for gas retailers. In particular, in the draft determination the Commission took the position that the cost of acquiring gas customers should be included in the standing contract price but that this should be on an incremental basis for a dual fuel retailer. In other words, only those acquisition costs that would be incurred by a dual fuel retailer that is already seeking to acquire electricity customers were considered in the Commission's draft determination of the gas standing contract price.

To assist in finalising its price determination, the Commission has engaged ACIL Tasman to review and report on the economic principles underpinning this approach. In particular, the Commission has required ACIL Tasman to test two key principles or assumptions, namely:

a) That it is not prudent for an energy retailer to seek to acquire gas customers in the South Australian retail energy market on a stand alone basis i.e. that a 'prudent' retailer will only seek to acquire gas customers on the basis that it is also seeking to acquire electricity customers, and

b) That the long term interests of South Australian energy consumers are best served by setting the gas standing contract price to recover only the incremental cost of acquiring gas customers.

Consistent with the Commission's draft determination, a prudent retailer is one that operates in an economically efficient way. Here, we follow the language in the Commission's draft determination and refer to an 'efficient' retailer.

[1] There is a difference in nomenclature between Origin and the Commission. Origin refers to retailer operating cost excluding the cost of acquiring customers while the Commission includes these costs. In this report we follow the Commission's approach unless otherwise specified. See section 2.2.1 on page 5 for a more detailed discussion

In addition, ACIL Tasman was asked to provide a methodology for analysing retailer costs given the above principles, based on information gathered during the current Inquiry and having regard to other relevant information.

This report provides the results of our investigation and analysis on the assumptions made by the Commission. Section 2 provides the background to the report, outlining the regulatory process that has transpired to date and key documents.

Section 3 addresses the Commission's first principle, namely that a prudent retailer would not enter on a stand-alone gas basis.

Section 4 considers how the long term interests of South Australian energy consumers would be best served, through consideration of the principles that underpin the efficient pricing of jointly provided services, together with the principles that underpin an appropriate sharing of the economies of scope secured through dual fuel retailing. The section also considers the impact on competition in the wider gas market and the incentives provided to customers.

Section 5 addresses certain points that the standing contract gas retailer, Origin Energy (Origin) raised in its response to the Commission's draft determination.

Section 6 discusses how these principles might be implemented into a methodology for analysing retailer costs, given the information available from the Commission's inquiry and from elsewhere.

2 Background

This section describes the background to this project. Section 2.1 begins with a summary of retail price regulation as it is applied in South Australia. Section 2.2 summarises the process for determining the gas standing contract price as it has been to date.

2.1 Retail price regulation

The retail price of both electricity and gas for small customers is subject to regulation in South Australia. Prescribed retailers of electricity (AGL) and gas (Origin) are compelled to offer a 'standing contract' to small customers.

The price of electricity and gas under these standing contracts is determined by the Commission pursuant to the relevant industry Acts and the *Essential Services Commission Act* (2002). The terms and conditions of the contract are also determined by a regulatory process.

The most recent determination of the electricity retail standing contract price was made in 2010 for a three and a half year period from 1 January 2011.

The gas retail standing contract prices currently applicable were determined in early 2008 and took effect for a three year period commencing on 1 July 2008. The Commission is now in the process of revising the gas standing contract price for the next three year regulatory period. This report has been prepared as an input into that process.

All licensed retailers, including the prescribed retailers, are permitted to offer 'market contracts' for electricity and/ or gas to small retail customers. They are permitted to determine prices as they see fit, without regard to the standing contract price.

As customers have recourse to the standing contract prices, though, it acts as a theoretical upper limit on the price that customers are likely to be willing to pay on market contracts. In practice, the regulated price is not an absolute upper limit, as some participants have found that customers are willing to pay prices above the standing contract price in some circumstances, such as in return for certain specialised terms and conditions (e.g. for the sale of green energy).[2]

[2] For further discussion see ACIL Tasman, "Competition in South Australia's retail energy markets", report for the Essential Services Commission of South Australia, 2010, available online at http://www.escosa.sa.gov.au/projects/150/competition-in-south-australia-s-retail-energy-markets-interview-with-participants-.aspx.

2.2 The 2011 standing contract price of gas

The South Australian process for determining standing contract energy prices begins with a proposal from the prescribed retailer, in this case Origin. Origin's proposal for the standing contract price of gas for 2011 to 2014 was submitted in November 2010 and released publicly with an issues paper from the Commission later that month.

Four submissions were received in response to the Commission's issues paper, from AGL, Origin, the Minister for Energy and the South Australian Council of Social Services.

The Commission then made a draft determination in April 2011 and Origin made a further Submission in May 2011.

This report relates to only a small part of Origin's overall proposal and the Commission's draft determination, namely the level of retail operating costs. The Commission refers to these as ROC.

There are some differences in nomenclature between the Commission and Origin:

- Origin appears to refer to 'retail costs' as the sum of retail operating costs (to which it refers as ROC) and customer acquisition costs
- The Commission refers to retail operating costs (to which it refers as ROC) *inclusive* of customer acquisition and retention costs (to which it refers as CARC).

In this report we are consistent with the Commission's approach. Therefore references to ROC are *inclusive* of CARC unless otherwise specified.

This report relates to the CARC component of ROC and, as discussed below, focuses on a smaller part of CARC, namely the cost of acquiring customers.

Origin's initial proposal is discussed briefly in section 2.2.1. The Commission's draft determination is summarised in section 2.2.2 and Origin's response to it in section 2.2.3.

2.2.1 Origin's proposal

Origin proposed that in setting the standing contract price of gas the Commission should consider the costs that would be incurred by a

hypothetical, prudent[3], new entrant retailer. It proposed that this should include retailer operating costs and customer acquisition costs.[4]

Origin defines retailer operating costs as those associated with call centres, billing, revenue collection and credit systems, IT systems, regulatory compliance and corporate overheads.

Origin defines customer acquisition costs as those relating to acquiring new customers, retaining existing customers and transferring existing standing contract (non-market) customers to market contracts. These include marketing, advertising, sales overheads, door to door agent costs and telesales.

Origin's approach to determining these costs was to base them on a new entrant retailer and carry out a benchmarking exercise of recent, relevant regulatory decisions.[5]

In previous decisions, the Commission had taken the view that customer acquisition costs should be excluded from ROC and included in the retail operating margin. Its rationale was that existing customers can be considered to be an asset of the business and that the cost of 'maintaining' that asset should be dealt with in the retail operating margin (ROM).

Origin proposed that this approach should be varied for the next regulatory period, with customer acquisition costs included in ROC rather than ROM.

Having regard to its review of recent, relevant decisions, Origin proposed that the standing contract price of gas should be determined with reference to the same ROC as the Commission had referred to in setting the standing contract price for electricity. This was $117.87 per customer (in 2011 dollars).[6]

2.2.2 The Commission's draft determination

The Commission's draft finding was that Origin's proposed ROC was excessive.

The Commission noted that the standing contract price of electricity includes an amount sufficient to allow for the acquisition of customers on a stand alone basis. Further, the Commission noted that while a competitive market has

[3] Note that we refer to a prudent retailer as an efficient retailer, in line with the Commission's draft determination.

[4] Origin, "Proposed Price Path for Standing Contract Gas Customers in South Australia 2011-12 to 2013-14, November 2010, p. 21

[5] Origin, "Proposed Price Path for Standing Contract Gas Customers in South Australia 2011-12 to 2013-14, November 2010,proposal p. 22

[6] Origin's proposal refers to ROC of $115, which is the same figure in 2010 dollars.

developed in both electricity retailing and dual fuel retailing, there is no evidence of retailers actively marketing gas as a stand alone product. The Commission concluded that the cost of acquiring gas customers should be evaluated on the basis that it would be done incrementally to acquiring electricity customers. Therefore, the Commission reduced the allowance for CARC to reflect the *incremental* cost of acquiring gas customers *given* the effort that is being made to acquire electricity customers.

The Commission did this in light of Origin's proposal that CARC should be treated as operating costs, and therefore included in consideration of ROC rather than in the ROM.

Origin's proposal did not identify CARC separately to other components of ROC. However, in determining the standing contract price of electricity the Commission allowed for CARC of $39.46 per customer and Origin's submission was to the effect that the Commission should adopt the same costs for gas as it had done for electricity. Therefore $39.46 per customer was taken as the starting point for CARC for the standing contract price of gas, measured on a stand alone basis.

The Commission then adjusted the stand alone cost downwards for two reasons only the second of which is considered in this report:

1. to account for its expectation that the rate at which gas customers will switch between retailers in the next regulatory period will be lower than the corresponding switching rate of electricity customers; and
2. to reflect its view that only the incremental cost of acquiring customers should be considered.

The Commission's adjustment for the incremental nature of customer acquisition was based on advice from Sapere and the Commission's understanding that the commission paid to sales agents for the 'second' fuel acquired is typically up to 50% of that paid for the 'first' fuel. Bearing in mind the limited information available on acquisition costs per fuel types, the Commission took a cautious approach and assumed that the acquisition cost of the second fuel in dual marketing is 30% lower than the first fuel.

The Commission's estimate of CARC for the standing contract price of electricity included both acquisition and retention components. The adjustments that were made to reflect its views regarding the customer acquisition cost are set out in Table 1 below.

Table 1 **Adjusted CARC allowance**

Item	Value ($Dec 11)
CARC allowance from electricity	$39.46
LESS Retention component	$6.60
LESS Transfer component	$2.20
LEAVES Acquisition component	$30.66
LESS Adjustment for lower switching rate	$7.91
LESS Adjustment for incremental customer acquisition approach	$6.84
LEAVES adjusted acquisition cost	$15.92
PLUS retention and transfer components	$8.80
LEAVES draft CARC allowance	$24.72

Source: Sapere

The result of these two adjustments was that, in its draft determination, the Commission made an allowance for CARC of $24.72 per customer. When combined with the other "base" component of ROC, the Commission allowed for ROC of $103.13 per customer in 2011/12.[7]

In setting the standing contract price for gas to apply in 2011 the Commission did not extend this rationale to costs other than CARC.

2.2.3 Origin's response

In the draft determination, the Commission reported Origin and AGL's concerns that the approach the Commission took in its draft determination approach represents a substantial departure from established regulatory principles. Thus:

> *Origin Energy expressed concern that the Commission may have suggested setting ROC on a dual-fuel or total energy basis. It stated that no energy regulator, at a state or national level, considers regulated pricing on this basis, and emphasised that retail costs and margins should be determined on a stand alone basis, in order to achieve an adequate level of competition.* [8]

and

[7] Note that the Commission also included an efficiency factor for subsequent years so the draft determination is based on a ROC which declines over the regulatory period.

[8] Essential Services Commission of South Australia, "2011 Gas standing contract price path inquiry draft inquiry report & draft price determination", April 2011, p A-72

> *AGL SA expressed concern at the Commission's suggestion that CARC could be based on the marginal cost of acquiring a gas customer beyond that of acquiring an electricity customer, stating that this would represent a significant departure from established regulatory principles and that the incremental costs would be very difficult to determine in practice.*[9]

In summary, therefore, a key part of Origin's argument is that it would be unprecedented for the Commission to approach CARC in the way it has done in the draft determination.

In its May 2011 response to the Commission's draft determination, Origin made a number of further comments related to the Commission's proposed approach to CARC.[10]. These can be summarised as follows:

- Origin referred to actual retail cost detail, which identified the cost to serve and the cost to acquire customers (on a national basis for electricity and gas combined). Origin argued that this shows that its actual costs, and the breakdown between CARC and other ROC, differed from the position the Commission took in its draft determination. It argued that greater reference should be made to its actual costs if the Commission determines that the benchmark set previously for electricity is not appropriate for gas
- Origin believes that there are "innate" efficiencies already included in its $117 proposal for ROC
- The Commission is required to have regard to the need to "promote competitive and fair market conduct, facilitate entry into relevant markets and ensure customers benefit from competition…". Origin argues that to take the view that there is no future for the stand alone gas market goes against these objectives and is a short term view
- Origin's internal data suggests that only [redacted] per cent of gas customers in South Australia also have an electricity account with the business and 36 per cent nationally have a dual fuel account. Origin believes these low percentages do not warrant determining costs on an incremental dual fuel basis
- Origin's internal data suggests that only [redacted]% of customers who switch their gas retailer go on to switch their electricity retailer within two months. Origin believes that the Commission should apply the stand alone CARC to at least the remaining [redacted]% of the gas customer base.

In relation to the first and second points, it is the total level of the standing contract price that enables competition in the market, not the level of the

[9] Essential Services Commission of South Australia, "2011 Gas standing contract price path inquiry draft inquiry report & draft price determination", April 2011„ p A-73

[10] Origin, May 2011, 2011 Gas Standing contract Price Path Inquiry Response to ESCOSA on Draft Inquiry Report and Draft Price Determination, p19

component parts of that price. ACIL Tasman agrees that a retailer should be able to recover its efficient costs from the market, and that it would be detrimental to consumers for the standing contract price to be set at a level that does not enable this. In practice, as discussed in section 3.1.3, market prices for gas have traditionally been adequate to cover efficient retailing costs.[11] As the Commission is proposing to increase the standing contract price, we do not expect that this situation will change in the immediate term.

In relation to the third point, section 4 considers the long term interests of consumers and whether these are likely to be served by the Commission's draft determination.

The remaining two points are discussed in section 5 of this report.

[11] As discussed in ACIL Tasman, 2010, the same cannot be said for electricity.

3 Whether an efficient retailer would retail gas only

This section examines the first of the two matters on which the Commission has sought advice, namely that, in the South Australian market, it would not be prudent for an energy retailer to sell and market gas on a stand alone basis.

Rather, the Commission's view is that an efficient energy retailer would not direct marketing effort to acquiring gas customers without also directing effort to acquiring electricity customers.

The Commission has made its draft determination on the assumption that an efficient South Australian energy retailer would only direct marketing effort to recruiting either:

- a customer's electricity account; OR
- a customer's electricity and gas account together.

The sections that follow provide an evaluation of this assumption. Section 3.1 begins with an overview of gas retailing in South Australia and the nature of competition in that market. Against this background, section 3.2 considers the Commission's assumption directly.

3.1 Gas retailing in South Australia

In its 2008 review of the level of competition in South Australia's retail energy markets, the Australian Energy Market Commission (AEMC) described energy, both electricity and gas, as a 'low involvement' product. While small customers are willing to participate in the market if approached by retailers, they are not likely to seek out competitive offers. This means that, for these markets to be effectively competitive, they must be driven by activity on the part of retailers.[12]

Consistent with this view, the Commission has previously analysed the competitiveness of South Australian energy markets using the structure conduct performance paradigm.[13, 14]

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[12] Australian Energy Market Commission, *Review of the Effectiveness of Competition in Electricity and Gas Retail Markets in South Australia - First Final Report*, December 2008, p. xi

[13] The structure conduct performance paradigm is a long established means of analysing competitiveness in markets based in literature going back to the 1950s. For a summary see, for example, Carlton and Perloff (2005), Modern Industrial Organization, 4th Edition, Pearson, Addison Wesley

[14] Essential Services Commission of South Australia, *2010 – 13 Strategic Planning Key Issues | Discussion Paper*, February 2010

Using this framework as a basis for assessing the competitiveness of the South Australian energy market, the current market structure is described in section 3.1.1 and the level of activity in the market is described in section 3.1.2.

The performance of the market is discussed in section 3.1.3. The value represented by South Australian retail energy customers to retailers is discussed in section 3.1.4.

This discussion draws heavily on ACIL Tasman's report of a series of interviews with energy market participants it conducted in 2010 (the competitiveness report). The public version of the competitiveness report is available on the Commission's website.[15]

3.1.1 Market structure

There appears to have been relatively little change in the structure of South Australian energy markets since the AEMC conducted its review of retail competition in 2008 and since ACIL Tasman interviewed energy market participants in 2010. There are ten electricity and four gas licence holders currently retailing to small customers in South Australia. Those retailers are listed in Table 2.

Table 2 **Retailers operating in the South Australian energy market**

Electricity retailers operating in South Australia	Gas retailers operating in South Australia
AGL Energy	AGL Energy
TRUenergy	TRUenergy
Simply Energy	Simply Energy
SA Electricity	Origin
Origin	
Momentum Energy	
Aurora	
Red Energy	
Country Energy	
PowerDirect	

As Table 2 shows, there are a number of single fuel retailers in South Australia. Without exception these are electricity retailers. As the table shows there are no retailers in South Australia that sell gas without also selling electricity.

[15] see ACIL Tasman, "Competition in South Australia's retail energy markets", report for the Essential Services Commission of South Australia, 2010, available online at http://www.escosa.sa.gov.au/projects/150/competition-in-south-australia-s-retail-energy-markets-interview-with-participants-.aspx.

This pattern is consistent with the other states connected to the National Electricity Market (NEM)[16], while electricity only retailers are quite common, there is not a single example of a gas only retailer in the NEM states..

The number of licensed retailers in South Australia has changed little in recent years. The most recent entry to the market was in 2007 when Red Energy commenced operations in South Australia as an electricity (only) retailer.

Since the AEMC review, one electricity retailer, Jackgreen, was placed into voluntary administration on 18 December 2009 (on a national basis). Additionally Country Energy advised ACIL Tasman in 2010 that it had recently decided to relinquish its gas licence, which it did in April 2011.

3.1.2 Market conduct

The number of participants in the South Australian retail energy markets has not changed significantly over the last couple of years. However, in 2010 most participants reported that the marketing effort they were investing in acquiring South Australian electricity and gas customers was lower than it had been in previous years. It was also lower than they were investing at the same time in other jurisdictions. This was attributed to a reduction in the 'headroom' in the retail electricity tariff.

Participants considered that the value offered by South Australian energy customers, given the regulated price at that time, was too low to warrant active marketing.[17] This situation may have changed somewhat since that time given that the standing contract price for electricity has recently been increased significantly.

Participants indicated that they have a finite amount of resources to invest in their business. They will invest these resources in acquiring retail customers where that activity is likely to represent the best return on that investment. All participants operate in multiple jurisdictions and so will direct their efforts to those markets in which the retail customers represent the best value.

As the AEMC found, energy is a low involvement product, meaning that consumers are unlikely to seek out competitive offers, although they may be amenable to consider offers 'brought to them' by retailers. Therefore, if retailers are not actively pursuing new customers, the rate of customer switching will be lower than it would otherwise be.

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[16] The NEM supplies all the States except Western Australia. The Australian Capital Territory is connected to the NEM while the Northern Territory is not.

[17] For a discussion of the reasons for this see ACIL Tasman, op cit, p. 14.

Most participants agreed that, under the conditions that prevailed in 2010, South Australian customers do not represent high value for energy retailers. The risks associated with the South Australian energy market are considered to be too high and the rewards are considered to be too low.

Therefore, in 2010 most participants pursued what was described as a 'hold' strategy for both electricity and gas customers, neither actively trying to increase their customer numbers nor wanting to see their customer numbers decline. As the cost to retain an existing customer is less than the cost to acquire a new customer, participants considered there to be sufficient headroom in the retail tariff to retain customers but not to acquire customers.

Indeed one participant regarded the value represented by South Australian customers in 2010 as insufficient to justify continuing to operate in that market. That participant decided to make an orderly withdrawal from the South Australian energy markets by allowing relationships with its existing customers to lapse.[18] It appears from the customer numbers data presented below that this participant has continued with this intention.

While other participants were not actively seeking to acquire new customers, all but the one which intended to leave the market were pleased to make an offer to customers who approached them. In this situation, the acquisition cost is negligible so the headroom is increased further.

There was one notable exception to this pattern. This participant placed greater emphasis on customer numbers than other factors due to its view that these are an important driver of valuations by investment analysts. Consistent with this emphasis, this participant took the view that 'any customer is a good customer' and was equally active in South Australia as it was in the other NEM states.

That said, this participant will direct its limited marketing resources to those jurisdictions where there is the greatest value. The level of resources in South Australia was relatively low in 2010 as there was a lack of activity by other retailers in the South Australian market.

The larger retailers were actively monitoring the market in 2010 so that they would be ready to increase activity when there was sufficient headroom in the retail tariffs.

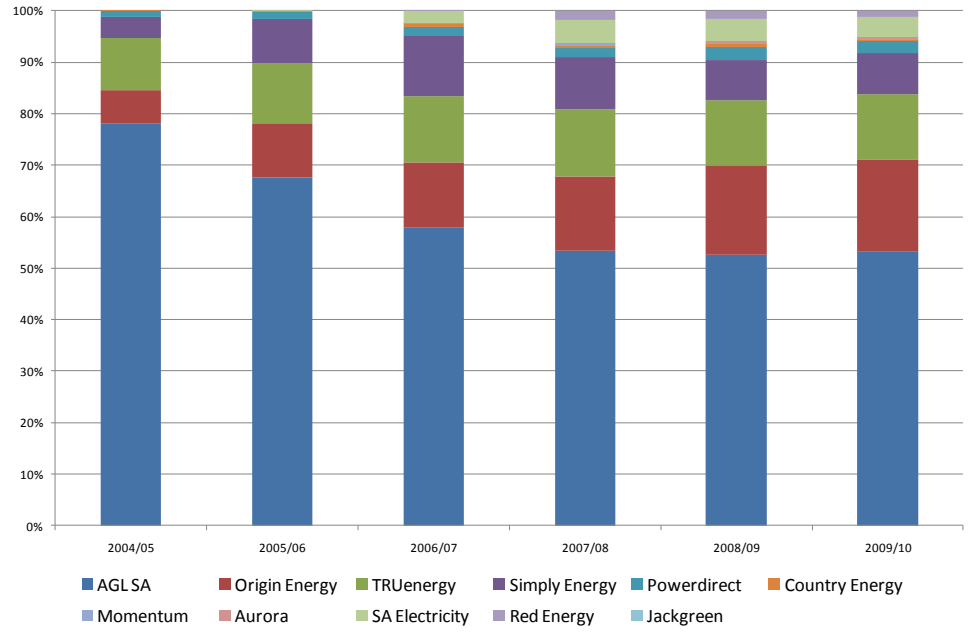
[18] This decision was made in the context of uncertainty about the corporate structure of that participant in the future, which limited its ability to a take a long term view of markets.

Importantly, the recent increase in switching rates, seen since the new electricity standing contract price took effect, gives some indication that this situation may have changed recently (see Figure 5 below).

Market shares

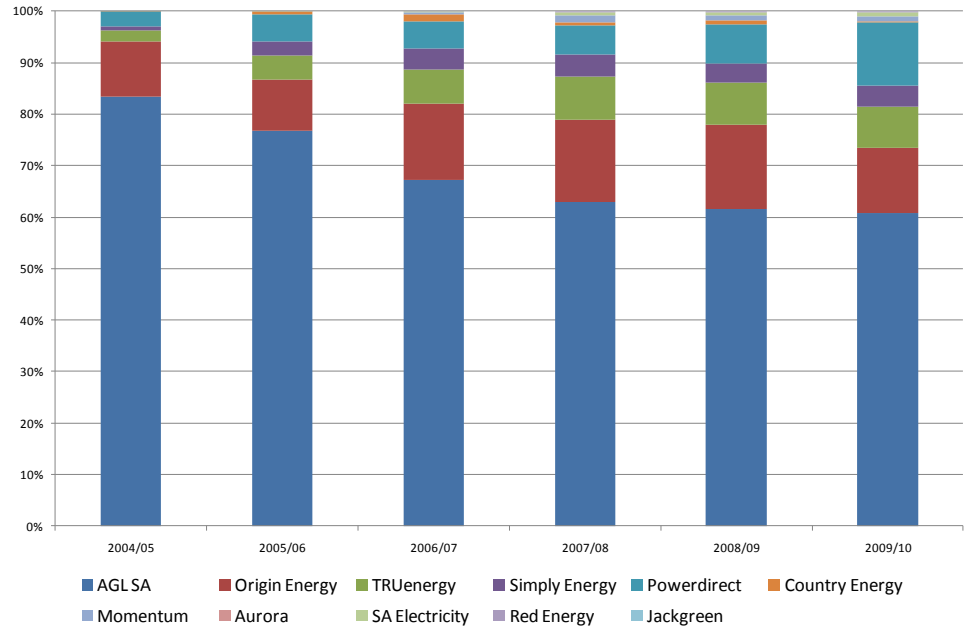
Given the lack of marketing effort being applied by most retailers, it is not surprising that market shares for both electricity and gas were relatively static over the couple of years leading to 2010. This is illustrated in Figure 1 to Figure 4 below, which provide the market shares of the retailers in the electricity and gas markets, for residential and small business customers, from 2004/05 to 2008/09. These figures reiterate the point, made in Table 2, that it is not uncommon for a retailer to supply only electricity, but it is unheard of for a retailer to supply only gas.

Figure 1 **South Australian electricity customer numbers, residential, market share by retailer by year**



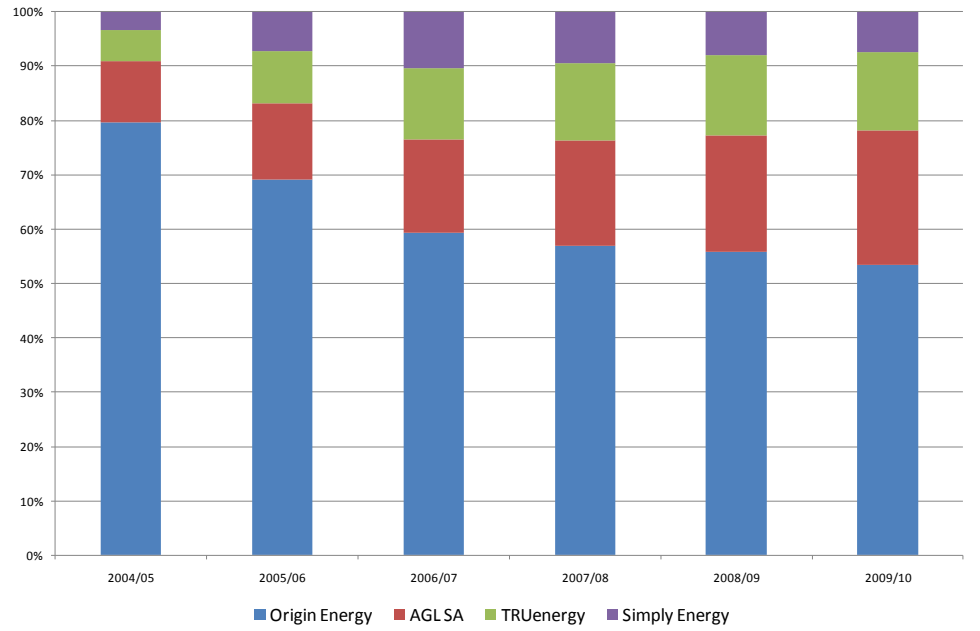
Data source: Essential Services Commission of South Australia, 09/10 Annual Performance Report: South Australian Energy Supply Industry, November 2010*, Table A2.3, page 133*

Figure 2 **South Australian electricity customer numbers, small business, market share by retailer by year**



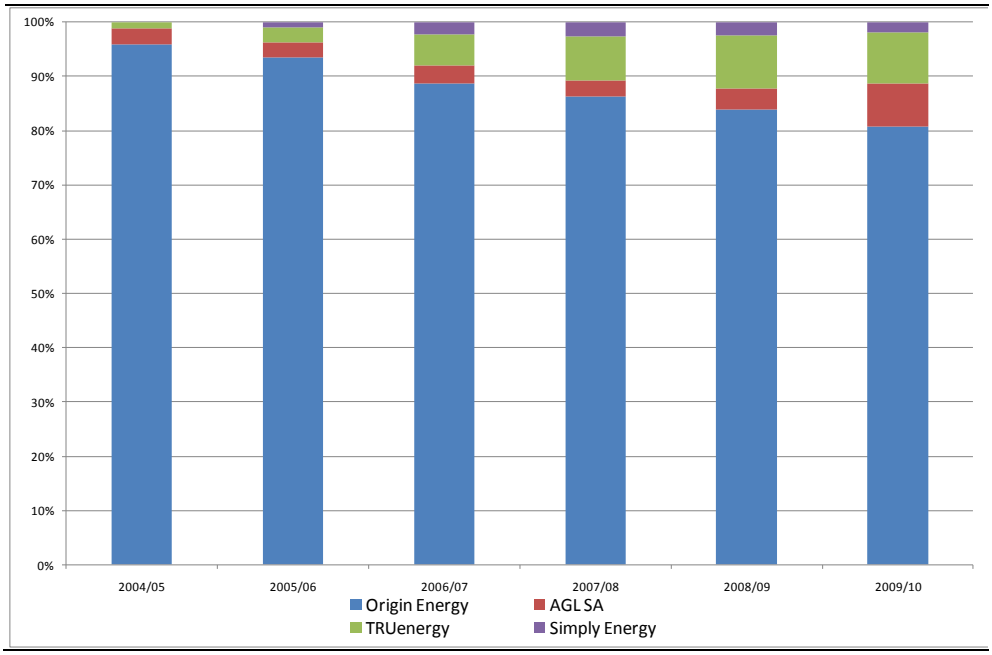
Data source: Essential Services Commission of South Australia, 09/10 Annual Performance Report: South Australian Energy Supply Industry, November 2010, *Table A2.3, page 133*

Figure 3 **South Australian gas customer numbers, residential, market share by retailer by year**



Data source: Essential Services Commission of South Australia, 09/10 Annual Performance Report: South Australian Energy Supply Industry, November 2010, *Table A2.4, page 134*

Figure 4 **South Australian gas customer numbers, small business, market share by retailer by year**



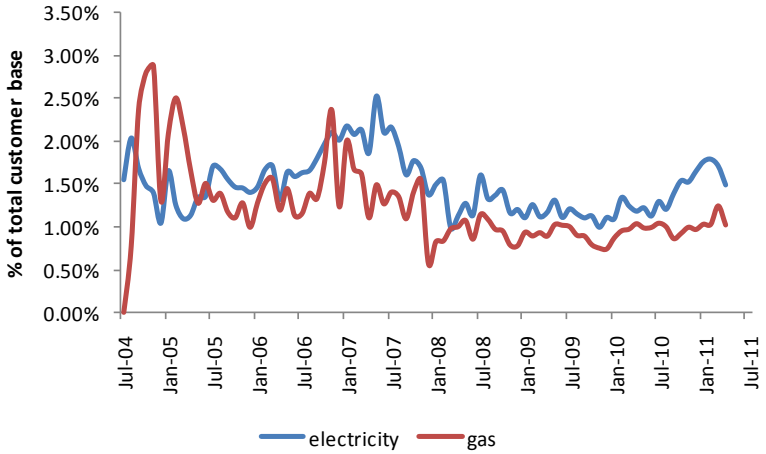
Data source: Essential Services Commission of South Australia, 09/10 Annual Performance Report: South Australian Energy Supply Industry, November 2010*, Table A2.4, page 134*

It is clear from the Figure 1 to Figure 4 that South Australian customers responded to the introduction of retail competition initially. In all but the case of gas sales to small businesses, the proportion of customers serviced by the incumbent retailer fell by approximately 20 per cent by mid 2005 and continued to fall until mid 2007. Then, coincident with most participants adopting a 'hold' strategy, the market structure appears to have stabilised. Since early 2007, the incumbent electricity (AGL) and gas (Origin) retailers have retained more than 50 per cent of customers in the retail electricity and gas markets respectively, and 70 per cent of customers in each market in aggregate.

Market churn

Similarly, in a market with a vigorous competitive fringe, one would expect to see a significant proportion of customers switching from one retailer to another as their contracts end and they move to take advantage of competitive offers from rival retailers. As is apparent from Figure 5, South Australia has experienced a decline in customer switching in recent years, although there is some indication that it has increased in recent months. This is likely to be due to softening of the wholesale spot price of electricity in South Australia and the recent reset of the standing contract price of electricity.

Figure 5 **Small customer transfers in SA retail energy markets**



Source: Essential Services Commission of South Australia, "Key Issues | Discussion Paper", February 2010, p11

Participants' views were somewhat divided on the meaning of the decline to July 2010.

Some participants interpreted churn as a direct measure of competitive activity. They regarded the decline in churn as being directly correlated with the decline in door-to-door sales and evidence that competition had largely stalled in South Australia. These participants commented that the level of churn observed in 2010 could be attributed to customer move-ins only.[19]

Other participants took the view that the churn rates observed in South Australia in the early years of full retail competition were unsustainably high, as they reflect a large number of customers moving away from the incumbent retailer along with an initial race for market share between the (then) new entrants. One participant suggested that retailers of other low-involvement products such as health insurance would not expect to observe churn rates as high as those observed in South Australia until recently.

In any event, it is noteworthy that the churn rates in electricity and gas have followed one another closely since the introduction of full retail contestability for gas, with the exception of approximately the first twelve months when gas churn declined steadily from an initial high.

3.1.3 Market performance

The role of a market is to allocate resources between producers and consumers. Producers benefit by earning profit, while consumers benefit by trading money for goods and services they value. A measure of a market's performance, therefore, is the price that prevails in it.

[19] When a customer moves house they are more likely to 'shop around' for an energy supplier.

When price is at the efficient level it is not possible, by definition, for the total benefit extracted from the market to be increased. The return that producers earn on their investment is the same as can be earned in other markets so they will not exit the market in pursuit of greater returns. From the consumer perspective, price is as low as it can be without jeopardising the long term through under investment.

If price is above the efficient level, producers benefit by extracting more benefit from the market than they otherwise would. This comes at the expense of consumers, who must either pay more or go without.

If price is below the efficient level, producers earn a lower return on their investment than they could earn in other markets, or other activities. This jeopardises the long run sustainability of the market as producers have an incentive to go elsewhere.

In an open market these competing pressures are balanced by the process of competition. When price is above the efficient level there is an incentive for firms to enter the market. The increase in price is competed away as entrants vie with incumbents for customers. When price is below the efficient level, the return on investment is reduced and firms face an incentive to exit. As this happens supply reduces and price increases towards the efficient level.

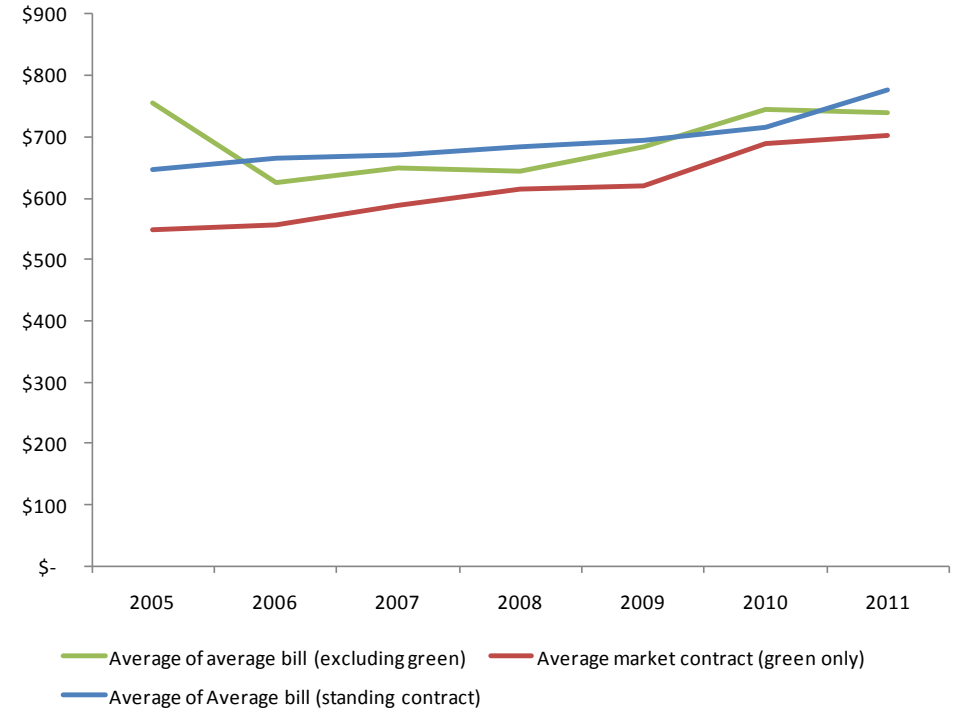
In the longer term, competition also provides incentives to innovate and discover lower cost ways of delivering goods and services.

When Government's set price in markets that are otherwise open,[20] this can interfere with market outcomes. As is discussed in section 4.1.2 below, it is important for regulators to ensure that the prices they set are not below the efficient level.

In the South Australian retail gas context the standing contract price has typically been at a level above the average market price. This is shown in Figure 6 below, which shows the average bill over time as calculated by the Commission.

[20] This situation is different from regulating price in natural monopoly markets where competition is not possible.

Figure 6 **Average South Australian Gas Bill, 24GJ, $Dec10**



Data source: Essential Services Commission of South Australia, email from P. Lim to J. Tustin, ACIL Tasman, dated 16 May 2011

As Figure 6 shows, retailers have made market offers to gas retail customers at prices below the standing contract prices since the introduction of full retail competition in 2004.

The fact that market offers have traditionally been below the standing contract price is unsurprising as it provides an inducement for customers to switch to market offers. At the time of writing, 70 per cent of South Australian gas customers had switched away from the standing contract. However, it also suggests that there is 'headroom' below the standing contract price for efficient retailers to supply gas to South Australian retail customers, and to do so profitably. If there was not room for this to happen then retailers other than Origin (i.e. the prescribed retailer) would not be expected to supply those customers.

This conclusion is also consistent the advice given by retailers in ACIL Tasman's earlier work regarding competition in South Australian retail energy markets. During those interviews, retailers indicated that when customers came to them, or in other words when acquisition costs were low, they would happily supply them as the margin was sufficient. Other retailers suggested that the margin was sufficient to supply customers profitably in 'normal' cases but, when the extra cost of dealing with a complaint or a billing system problem was presented, it was no longer profitable to do so.

3.1.4 The value represented by South Australian energy customers

Energy retailers[21] typically measure their success in terms of the value that customers represent to their business. The particular metric used varies from business to business, with some businesses focussed on gross margin and others on incremental contribution to earnings before interest and tax (EBIT), but the underlying concept is similar.

Therefore, retailers typically see South Australia as one of a number of places where they could direct their efforts. They will choose between these places based on their assessment as to which will deliver the best return on marketing effort.

Generally speaking, retailers regard the cost of acquiring a customer as approximately constant around the country, so a given amount of marketing effort is likely to produce the same number of customers wherever that effort is made.

On the other hand the value each customer represents to the participant differs significantly around the country due to differences in the volume of energy consumed, price paid, the risk that price will not be sufficiently flexible to allow for changes in cost while the customer remains with the participant, and the margin.

Participants also generally regard South Australian customers as being more 'sticky' than customers in other jurisdictions. This means that, all else being equal, they can represent a higher level of value than customers in other jurisdictions. However, at the same time, some participants considered that they also represent a greater commitment, which can amplify risks. Some participants regarded this 'stickiness' as an inherent characteristic of South Australian customers, while others saw it as a function of the reduced marketing activity, with customers staying with existing retailers because competitors are not trying to recruit them.

Still other participants saw no difference between jurisdictions, with South Australian customers no more or less likely to churn away from retailers than their counterparts in other states.

There are a number of factors that contributed to the reduction in the value that South Australian customers represent to energy retailers. Participants unanimously regarded the standing contract price of electricity as too low to allow them to supply South Australian customers and earn a return commensurate with the risks involved in the South Australian market. This

[21] In some cases this should be read to mean the retail component of vertically integrated energy businesses.

price has since been reviewed and it is notable that churn rates have increased since that time. In the current context it is notable that the same complaint was not made about gas. Competition in that market was suppressed mainly by the low level of competition in the electricity market.

Much of the above discussion relates directly to the electricity market. The nature of competition is that the level of activity in the gas market is directly related to the level of activity in the electricity market. None of the participants considered a gas only business model to be viable, so whenever a 'gas retailer' seeks to recruit new customers, this will be on a dual fuel basis. While some retailers may have 'gas only' contracts with customers, this is the exception rather than the rule and these are typically legacy arrangements. This is not to say, though, that any retailer would refuse to take on a customer who came to it for gas supply alone, although they would try to secure that customer's electricity business.[22]

For this reason, activity in the retail gas market is constrained by the retailers' willingness to be active in the retail electricity market.

This issue is central to the Commission's proposed approach to acquisition costs. It is discussed further in section 3.2 below.

3.2 The question of gas only retailing

In setting the standing contract price of gas in South Australia the Commission has "...sought to establish the lowest possible price consistent with:

- The costs that an efficient retailer would be expected to incur in meeting the responsibilities of the standing contract supply to small customers in South Australia over the [next three years];
- Encouraging active competition among retailers for the benefit of customers
- Encouraging ongoing, efficient investment to meet consumers' long term requirements; and
- Providing an appropriate return for an efficient declared retailer."[23]

The emphasis, therefore, is on the way that an efficient retailer can be expected to operate in this market, not necessarily on the way that Origin has operated. In this context 'efficient' is a broader concept than 'technical efficiency'. A retailer that is technical efficient will do the things it does at the lowest possible

[22] The reverse is also generally true. Retailers would be willing to supply electricity alone to a customer who asked for that, but, if the customer had a gas supply, those retailers who have gas would try to persuade that customer to switch their gas business as well.

[23] Draft determination, pA-23

cost. A retailer that is 'efficient' in the sense intended here will also ensure that it only does those things that will add value to its business. To avoid confusion the retailer in question is commonly referred to (for example in Origin's submissions and the terms of reference for this report) as a prudent retailer, although in this case we follow the language used in the Commission's draft determination and refer to an 'efficient retailer'.

An efficient retailer is, by definition, one that puts its resources to their most profitable use. In other words it is a profit maximising retailer.

For the reasons outlined below ACIL Tasman considers it unlikely that an efficient retailer in South Australia would take a 'gas only' approach. Rather, we would expect that any new entrant gas retailer would choose to retail electricity as well.

The reason that an efficient gas retailer would not refrain from retailing electricity is that the relatively low value of gas retail customers[24] compared to electricity retail customers makes gas a secondary fuel in the South Australian context. Refraining from retailing electricity in addition to gas amounts to refraining from pursuing a profitable activity that the retailer is well equipped to pursue. This is not something that an efficient retailer would do.

The presence of economies of scope (see section 4.2.1) in acquiring gas and electricity customers further strengthens our conclusion, as would the presence of economies of scope in other parts of a retailer's operation.

The presence of economies of scope means, by definition, that having incurred the costs necessary to acquire customers for one fuel, a retailer is able to acquire customers for the second fuel more cheaply than it otherwise could. In other words, it is cheaper to recruit a customer's 'second fuel' business if you are already targeting their 'first fuel' business.

Given that economies of scope exist in acquiring customers, a retailer of *either* electricity or gas is at a competitive disadvantage in recruiting customers when compared to a retailer of *both* of these fuels.

The economies of scope mean, by definition, that a retailer that can supply both fuels can acquire the customer's 'second fuel' business more cheaply than their 'first fuel' business. Therefore it will be more profitable for a retailer to supply that customer on a second fuel basis. In addition, where a retailer

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[24] See ACIL Tasman 2010, pp. 39 – 42. See also:

Origin, "Review of Gas Standing Contract Prices 2011/12 – 2013/14: Issues Paper", letter to Mr N Petrus, Essential Services Commission of South Australia, 17 December 2010.

AGL, "Review of Gas Standing Contract Prices 2011/12 – 2013/14: Issues Paper", letter to Mr N Petrus, Essential Services Commission of South Australia, 21 December 2010

supplies both fuels to a customer the customer is less likely to leave the retailer because they do not have an existing relationship with a competitor.

This competitive disadvantage will mean that, as competition intensifies in the electricity retail market, a single fuel retailer is at risk of being 'left behind', less able to acquire customers than its competitors.

All else being equal, an efficient retailer of either fuel would nullify this competitive advantage by adding the second fuel to its business.

In practice, though, all else is not equal. There are a number of reasons why it is reasonable to expect that, while a gas retailer would add electricity to its business, the reverse is not necessarily true.

First, as discussed in ACIL Tasman's previous report, the fixed costs of securing a gas supply in South Australia were, at least in 2010, considered by most retailers to be too high to justify entering the wholesale market for gas unless the gas was used for more than retailing to small customers.

The retailers currently in the gas market are also active in the wholesale gas market for fuel to supply electricity generators, so they can spread the cost of gas access more broadly.[25] An electricity retailer without a presence in the wholesale gas market is unlikely to seek to enter gas retailing.

Second, there are significantly more electricity retail customers in South Australia than gas, with gas seen by many as a discretionary fuel whereas electricity is regarded as a necessity. In addition, the value of the gas consumed by a typical (small) gas customer is significantly lower than the value of electricity consumed by a typical (small) electricity customer. Therefore the relative revenues obtained are much lower for gas and the incremental profit that can be earned by adding gas to an electricity business is smaller than the incremental profit of adding electricity to a gas business.

For small retailers, especially those that do not require gas for electricity generation, the costs of obtaining gas cannot be justified by the small number of customers likely to be acquired and therefore the small revenue likely to be earned. This is not true in the case of electricity, though, with a number of electricity retailers operating with far fewer customers than even the smallest gas retailer.

This conclusion is supported by the existing structure of the market. There were no examples of gas only retailers in South Australia in 2010 and no such retailers have entered since that time. In fact we are not aware that there has been a 'gas only' retailer in South Australia since full retail contestability was

[25] This is another example of economies of scope.

introduced in July 2004. Nor are we aware of 'gas only' retailers in other regions of Australia's National Electricity Market. Indeed, due to low penetration and low average consumption, SA is the least attractive jurisdiction within the NEM to retail to on a gas only basis, which makes the likelihood of gas only entry in SA especially unlikely given the absence of gas only entry elsewhere.

4 The long term interests of consumers

This section of the report examines the question whether the long term interests of consumers are best served by setting the gas standing price contract to recover only the incremental cost of marketing and selling gas (above the costs of retailing electricity).

The section begins, in section 4.1, by discussing what is meant by the long term interests of consumers and what this implies for pricing, particularly regulating prices in conjunction with a competitive energy market.

Section 4.2 then examines the efficiency considerations in detail, identifying principles for pricing efficiently in the presence of economies of scale and scope. The section also examines regulatory precedent regarding the treatment of economies of scope and the appropriate allocation of joint costs between gas and electricity.

4.1 Definition of the long term interests of consumers

4.1.1 The Commission's objective

As noted in section 2 above, the Commission's objective in this matter is to protect the long term interests of South Australian consumers with respect to the price, quality and reliability of supply of essential services, in this case, the supply of gas.

This objective will be achieved when the price that prevails in the market for gas is sufficiently high to cover the efficient cost of supplying gas, but is no higher than the efficient cost.

When price is set in this way it will satisfy the Commission's objective because this is the lowest possible price that will ensure that an acceptable quality of the essential service in question will be supplied now and into the future. If price is lower than this level then suppliers will be unable to earn a return on the investments necessary to supply the service. This will discourage ongoing investment and lead to the deterioration of the quality and reliability of supply over the longer term, although consumers would benefit from the low price in the immediate term.

If price is set above this level, investment will be made and supply of the essential service will be secure into the future, but consumers will pay more than necessary for the service, reducing the benefit available from using it.

4.1.2 The role of price regulation in the energy market

Price regulation is used where competition is unable to protect the interests of consumers, whether as a result of natural monopoly conditions or other constraints. In this case, the South Australian Government considers that it is necessary to regulate the market for gas by using a regulated standing contract price in order to protect South Australian consumers.

Market prices generally cannot persist at a level much above the standing contract price. All else being equal, if a retailer increases its price[26] too high above the standing contract price, or if a price remains above it for too long, consumers would be expected to abandon their market contracts and move to the standing contract. In this way the standing contract acts as a ceiling price, although retailers have indicated that the standing contract price is not necessarily an absolute ceiling, with customers sometimes prepared to pay prices above the standing contract price.[27]

Regulation of the standing contract price sits alongside competition in South Australian energy markets more generally. Therefore, the implications of the standing contract price for competition in the market are important.

In a competitive market, or one in which competition is possible, it is not in the interests of customers for any "benchmark" price to be set below the level that would enable efficient new entry. To do so would preclude entry to the detriment of the long term interests of consumers.

Where competition is feasible, the optimal role for the standing contract price may be to protect consumers from excessively high prices. In other words, the regulated price acts as a "safety net".

In setting the standing contract price, the Commission has taken account of the need to allow for entry and the risk of error in its determinations. In any regulatory process, where prices are set based on uncertain estimates of costs and other parameters there is a risk of error. If this error results in price being below the efficient level, entry would be precluded, to the detriment of consumers. On the other hand, if the regulator errs by setting price above the efficient level, competition between firms in the market would prevail and price would move towards the efficient level.

The appropriate approach for setting the standing contract price, therefore, is to consider the costs that would be incurred by an efficient firm entering the gas retail market in South Australia. As noted above, the standard practice,

[26] Note that individual retailers may offer multiple prices in different contractual bundles.

[27] See ACIL Tasman, 2010, p.16

both in South Australia and in other regions of the NEM, is for a gas retailer to supply electricity as well. This should be taken into account in setting the standing contract price.

4.2 Principles for efficient pricing/price regulation

4.2.1 Dual fuel retailing and economies of scope

Dual fuel retailing involves the retailing of both gas and electricity services to customers.

In a report prepared to inform the Commission's draft determination, Sapere identified a number of areas where economies of scope can be realised through the provision of a common business platform[28]. These include sales and marketing, customer services, energy trading, management and IT systems. In addition, Sapere identified potential economies from the convergence of customer account management, including single entries in the customer information system, streamlined customer communications and stream lined customer acquisition activities[29].

Sapere concluded that business process convergence for electricity and gas retailing has taken some time to develop, partly due to delays in moving towards nationally consistent regulation of retail energy markets, the difficulties of large scale IT projects and other constraints[30].

Generally, economies of scope arise when a supplier is able to produce two or more goods or services together and share the input costs.

In this case, the Commission's view is that economies of scope arise because the retailer is able to integrate its marketing across the two fuels. Sales personnel seek to sign new customers to both fuels, and a reduced commission is typically paid for the second fuel.

4.2.2 Economic principles for pricing in the presence of economies of scope

The regulatory assessment of efficient pricing is supported by the so-called Baumol and Willig efficient pricing conditions. These are the conditions required to ensure efficient pricing in the presence of economies of scale or

[28] Sapere Research Group, April 2011, 2011 Review of the South Australia gas standing contract retail operating cost and retail operating margin: Report to the Essential Services Commission of South Australia, p71

[29] Ibid, p73

[30] Origin 2010 Annual Report, p18

scope[31]. They are designed to mimic the constraints placed on firms by contestable markets, and ensure that firms do not earn more than a reasonable rate of return, as judged by the benchmark of an efficient new entrant.

The Baumol-Willig conditions state that where there are economies of scale and/or scope in supplying two or more services these should be passed on to consumers, because this is what would happen in a competitive market. The conditions require that the price of each service or set of services must be[32]:

- *less than* the stand alone cost of supplying the services or set of services
- *more than* the incremental cost of supplying the services or set of services

The difference between incremental cost and stand-alone cost is the value of the scope economies.

The Baumol-Willig conditions provide a useful theoretical basis for establishing regulated prices, using a competitive benchmark. In particular, they:

- Require the supplier to pass on the benefits of economies of scope to consumers, and prevent the "double charging" of shared inputs
- Do not permit a supplier to earn more than a competitive rate of return
- Are not set so high as to induce inefficient investment
- Do not permit cross-subsidisation between services, thus preventing the supplier from engaging in predatory pricing
- Ensure that the provider's total revenue does not exceed its total costs (when applied to an entire range of services).

In the current context, the Baumol Willig conditions require that any scope economies that may exist in acquiring customers should be passed on to customers. However, they leave open the question of how the scope economies should be allocated or, in other words, which fuel should benefit from the reduced cost of acquiring customers. The allocation of the economies of scope is discussed in the next section.

4.2.3 Appropriate distribution of economies of scope

The above discussion shows that economies of scope should be passed onto customers through regulated prices, but does not assist in allocating the economies of scope between the two fuels.

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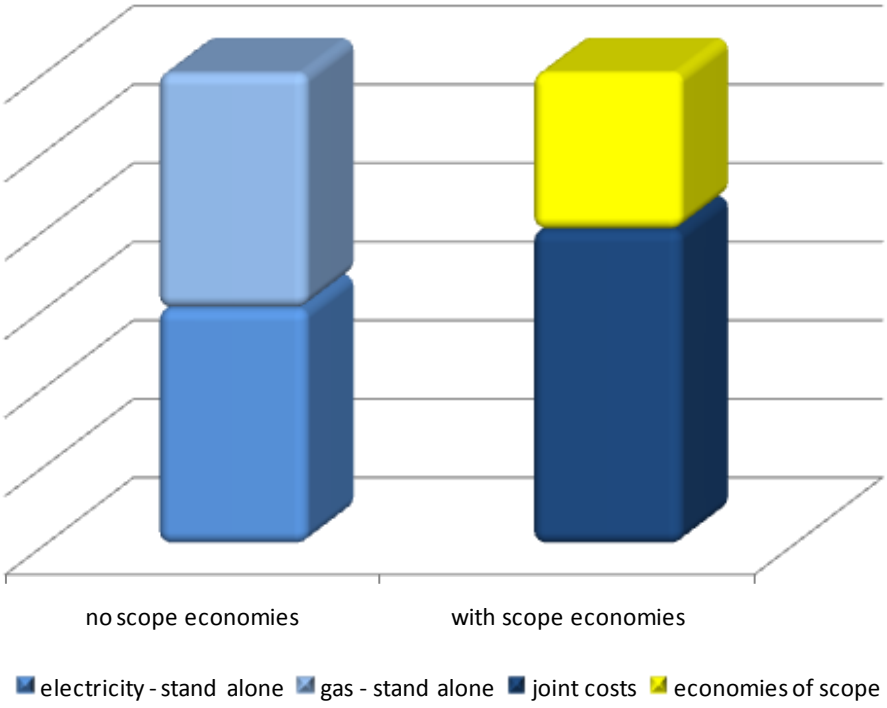
[31] Baumol, Panzar and Willig, 1982, Contestable markets and the theory of industrial structure, San Diego: Harcourt, Brace Jovanovitch.

[32] Where there are several services then these conditions must be applied combinatorially, so that no service, or subset of services, is priced such that revenues exceed the stand-alone costs.

The stand alone cost of acquiring electricity customers was allowed under the electricity standing contract. Given this, the full value of the economies of scope should be passed onto the gas standing contract price. To do otherwise would allow monopoly rents to be included in the standing contract price of gas, because the economies of scope would be recovered twice. This is illustrated in Figure 7.

Figure 7 **Joint costs and economies of scope**



In the hypothetical example shown in Figure 7 there are economies of scope in marketing electricity and gas to retail customers. In the column to the left, the marketing cost of both fuels is shown on stand alone bases (lighter shades of blue). The total cost exceeds the cost of marketing both fuels together. The cost of marketing both fuels together (darkest blue) is the joint cost, with the difference between this and the sum of the two stand alone cost being the value of the economy of scope (yellow).

Therefore, joint costs and economies of scope are related concepts.

Joint costs arise in many different contexts, and there are substantial literatures devoted to their appropriate allocation, in both the accounting and economics fields. These approaches include allocating joint costs:

- in proportion to some simple criterion such as usage or number of customers

- to maximise some criterion of economic efficiency subject to a budget constraint (as for example under Ramsey pricing[33])
- by taking strategic possibilities into account by using game theoretic concepts, such as the Shapley value[34] and nucleolus[35] methods

The complexity of the joint cost allocation problem has led some authors to conclude that there is no economically justified way to allocate joint costs, and indeed all of the above methods can lead to flawed results.

However, a number of principles can be identified, which a cost allocation must satisfy if it is to be seen as efficient. These principles are as follows:

1. Costs allocated to a product should never be less than its incremental cost
2. Costs allocated to a product should never be greater than its stand alone cost
3. Within the bounds of incremental and stand alone cost, the allocation of costs should have regard to the relative intensities of demand (and hence profitability) of each product
4. Where one activity is clearly dominant, and undertaken regardless of the contribution of other activities, other activities should pay incremental cost

Principles 1 and 2 correspond to the Baumol Willig conditions for efficient pricing discussed above.

Principle 3 reflects the fact that the production of joint products is undertaken in the light of the commercial value of the outputs produced. Alfred Kahn demonstrated that, for products which are sold in competitive markets, knowledge of the demand function for each product allows the identification of a competitive supply function and optimal (separate) prices. Total price equates to composite marginal cost, and the price of each product equals its own separate marginal opportunity cost[36]. In this manner, the relative demand for each product plays an important role in allocating the underlying joint cost. A more detailed discussion is provided in Appendix A.

Principle 4 states that when one product is dominant, other activities should pay only incremental cost. An activity or product is dominant when the activity would be undertaken regardless of the contribution from other products. Other jointly produced products or services are of the nature of by-products.

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33 Ramsey, 1927, A contribution to the theory of taxation, *Economic Journal* 37: 47-61

34 McLean, R. P., Sharkey, W. W. 1998 "Weighted Aumann-Shapley pricing", *International Journal of Game Theory, 27:511-523*

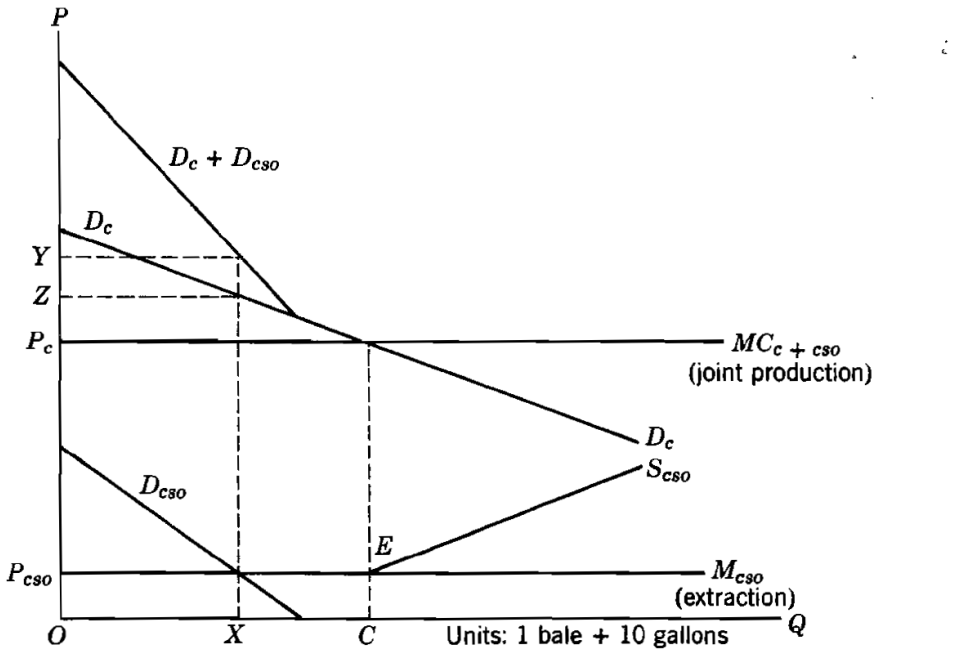
35 Young, H.P, Okada, N. And Hashimoto, T, 1908, Cost Allocation in water resources development – a case study of Sweden,

36 Alfred E Kahn, 1998, The Economics of Regulation, Principles and Institutions, MIT Press, Cambridge Massachusetts, London England, p79

This principle was also demonstrated by Kahn, using an example of the joint production of cotton and cotton seeds. The cotton and cotton seeds are produced in a fixed proportion. A separate production process is required to produce cotton seed oil, so that M_{cso} is the marginal cost of extracting the oil, and M_{c+cso} is the marginal cost of producing cotton plus cotton seed oil.

The demand for cotton (shown by D_c) is very much greater than the demand for cotton seed oil (D_{cso}). Summing the demands vertically shows the average revenues at which the various quantities of the composite units of cotton and oil can be sold.

Figure 8 **Joint production for cotton and cottonseed oil, cotton dominant**



Source: Kahn, 1998, Vol I p80, Figure 2

In Figure 8 the demand for cotton is very much stronger than the demand for cottonseed oil, so much so that it alone determines how much fibre and seeds are produced. Adding the demand for oil does not change the equilibrium output of cotton, OC. Any joint costs incurred for production are unequivocally attributable to cotton fibre, and the price of cotton should reflect all of the joint costs.

In the current context, electricity marketing and selling is the dominant activity. Gas marketing and selling would not be undertaken separately from electricity retailing, there are far fewer gas accounts than there are electricity accounts and the revenue contribution from gas retailing is much lower than the contribution from electricity retailing. As electricity marketing and selling is the dominant activity, it is appropriate for all joint costs to be covered in the

electricity standing contract price, with only incremental costs covered in the gas standing contract price Moreover, as discussed further in section 4.2.5, to do otherwise would jeopardise competition between electricity retailers.

4.2.4 Regulatory precedent on economies of scope

Rail

Within the Australian regulatory context, the most explicit recognition of economies of scope has arisen in the regulation of access prices for rail infrastructure.

Most rail access arrangements operate by way of an access undertaking proposed by the infrastructure provider, which is approved by the relevant jurisdictional regulator. The access undertaking typically involves the definition of ceiling and floor price limits, which are defined individually and combinatorially (i.e. for each operator individually and for a combination of operators[37]). The price floor is defined in terms of incremental cost, and the price ceiling in terms of stand alone cost.

The combinatorial aspect of the ceiling test ensures that the revenue from a group of operators cannot exceed the economic cost of servicing them as a group on a stand alone basis. To the extent that there are economies of scope (e.g. through the provision of shared track) the ceiling test requires that the economies of scope are passed on and there is no double charging of the cost of shared track[38].

Access regimes which involve some form of combinatorial floor and ceiling price test for rail infrastructure include those operating in NSW, WA, Queensland, and the regime under which ARTC operates. The definitions of the price ceilings used in these regimes are described in Appendix B.

There is less explicit recognition of economies of scope within the regulation of utility businesses, such as electricity and gas supply. However, the issue of economies of scope was addressed by IPART in its two recent determinations of regulated electricity retail tariffs. The presence of economies of scope has been acknowledged also in the water industry in Australia and the UK.

[37] The combination of operators is sometimes specified in terms of any combination of operator and sometimes in terms of all operators

[38] KPMG, Report on the pricing principles in the NSW Rail Access Regime, p39

IPART electricity retailing

IPART determined regulated prices for electricity retailing in NSW in 2007 and 2010[39]. For the 2007 review IPART was required to have regard to the costs of a hypothetical new entrant into the mass market[40]. For the 2010 review, IPART was required to ensure that prices recovered the costs of an efficient Standard Retailer's costs, and to ensure that decisions were consistent with the government's policy aim of reducing customers' reliance on regulated prices[41].

In support of the 2007 review, IPART asked Frontier to consider issues concerning scale and scope in electricity and gas retailing. Frontier concluded that economies of scale exist in electricity retailing, and at relatively low customer numbers. Accordingly, Frontier considered that a new entrant would be able to operate at an efficient scale[42].

Frontier also considered that there were potential for economies of scope between electricity and gas retailing. However Frontier considered that these economies related to only a small proportion of costs, and it was unclear whether dual fuel economies had been realised in practice[43].

Frontier also identified the presence of economies of scope within vertically integrated suppliers, for example combined distributor retailers[44]. Frontier cited studies by Kwoka[45], Nemoto and Goto[46] and Piacenza and Vannoni[47], which found evidence of economies of integration of between 3% and 57% (for varying parts of the supply chain).

On the basis of this advice, IPART adopted benchmarks for retail operating costs that were based on:

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[39] See IPART, June 2007, Promoting retail competition and investment in the NSW electricity industry, Regulated electricity retail tariffs and charges for small customers 2007 to 2010 and IPART, March 2010, Review of regulated retail tariffs and charges for electricity 2010 to 2013, Electricity Final Report

[40] IPART, June 2007, Op cit, p2

[41] IPART, March 2010, Op cit, p11

[42] Frontier, March 2007, Mass market new entrant retail costs and retail margin, p8

[43] Frontier, March 2007, p9

[44] Frontier, Ibid, p10

[45] Kwoka, J., 2002, Vertical economies in electric power: evidence on integration and its alternative, 20 *International Journal of Industrial Organisation* 653.

[46] Nemoto, J and Goto, M (2004) "Technological Externalities and Economies of Vertical Integration in the Electric Utility Industry", 22 *International Journal of Industrial Organization* 67.

[47] Piacenza, M and Vannoni, D (2005) "Vertical and Horizontal Economies in the Electric Utility Industry: An Integrated Approach", *Hermes Working Paper*.

- A new entrant (2007) or incumbent retailer (2010) that had achieved economies of scale and
- A stand alone retailer that was not vertically integrated into electricity distribution in NSW.

In its 2010 determination, IPART based its assessment of the retail cost allowance on the actual historic costs of Standard Retailers. IPART recognised that this cost information may reflect economies of scope (between retailing and distribution), but considered it appropriate to use nonetheless because the allowance was comparable to information reported by stand alone businesses. Also IPART concluded that stand alone businesses may be able to adopt business structures that achieve similar or greater cost advantages[48].

We note that the precedent set by IPART is not inconsistent with the position taken by the Commission. Like IPART, the Commission is using a ROC benchmark that reflects an efficient scale of retailer. Also, the retailer is assumed to be stand alone in the sense of not combining retail and distribution activities. IPART did not explicitly address the appropriate treatment of economies of scope for dual fuel retailing, presumably on the basis of Frontier's 2007 advice that such economies were not material. Frontier does not appear to have considered the question of acquisition costs directly. Finally, both the Commission and IPART have been concerned to test the reasonableness of its benchmark.

Water

In 2007 IPART undertook a literature review of the cost structure underlying the water industry in metropolitan Australia[49]. The review found five studies that examined economies of scope, with two studies reporting economies of scope between water production and water distribution and two studies finding economies of scope between water and wastewater services. One study found evidence of diseconomies of scope.

The most detailed of these was a study by Stone and Webster of the UK water industry[50]. Stone and Webster found there was some evidence of economies of scope from the vertical integration of water production and distribution functions, but diseconomies from the vertical integration of wastewater collection and treatment/disposal functions.

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48 IPART, June 2007, Op cit. p114

49 IPART, Sept 2007, Underlying costs and industry structures of metropolitan water industries

50 Stone and Webster Consultants Ltd, Jan 2004, Investigation into evidence for economies of scale in the water and sewerage industry in England and Wales, Final Report, for the Office of Water Services (Ofwat)

In a report for the Economic Regulation Authority (ERA), ACIL Tasman found economies of scope between retail and wholesale water supply. Our report also identified a study that suggested substantial cost savings for multi-utilities providing gas-electricity-water services[51].

IPART and ERA were concerned to identify the potential for introducing competition within the water industry through changed industry structures and/or procurement arrangements. Thus they were not concerned explicitly with the implications of economies of scope for pricing. However, the revenue building blocks used to set allowable revenue limits invariably reflect the incumbent utilities' current size and operating structure. Thus the benefits of any economies of scope are incorporated in the building block information, and result in lower prices to customers.

4.2.5 Conclusion – economies of scope and efficient pricing

In the current context, the Commission has previously found that joint costs exist in acquiring customers in the electricity and gas markets.

In a competitive market the economies of scope that arise from these joint costs would be passed onto customers and the market would determine the way they were allocated between electricity and gas customers. Given that gas is clearly a secondary product, it is likely that the joint costs would be allocated to electricity in a competitive market, with the economies of scope allocated to gas.

However, in determining regulated prices the Commission must allocate the economies of scope to the standing contract price of one fuel or another because it is required to set standing contract prices for both. In this case the Commission has allocated the joint costs in the way that it considers will be most beneficial to competition in both the gas and electricity markets.

If the Commission chose to allocate part of the economies of scope to the electricity market this would jeopardise competition in that market. Whereas single fuel competition is unprecedented in the South Australian gas context, the same is not true for electricity. If the standing contract price of electricity was reduced to account for economies of scope that arise only through selling gas, single fuel retailers would be at a competitive disadvantage to their dual fuel competitors, which would be detrimental to the interests of consumers.

In our view allocating economies of scope to the gas standing contract is likely to be in the long term interests of consumers as it enables:

[51] ACIL Tasman, Oct 2007, Size and scope economies in water and wastewater services

- single fuel competition for electricity, which has been present since full retail contestability began, together with
- dual fuel competition in the gas market, which has never been characterised by single fuel competition.

5 Issues raised in Origin's response

The sections above demonstrate that the economies of scope available to an efficient new entrant should be passed through to regulated prices. Further, given that electricity retailing is the dominant activity and that electricity prices incorporate an allowance for the full stand alone cost, economies of scope should be incorporated into the regulated price of the gas standing contract.

The Commission considers that prices should be no more than that required to secure effective competition in the market, and that this can be assessed by reference to dual fuel retailing. In its response to the draft Determination, Origin argued that the Commission has a duty to promote competition, and that to take the view that there is no future in a gas stand alone business goes against the objectives of the market and provides for a short sighted view as to the future of gas as a single fuel source[52].

This difference of view is fundamental to consideration of customers' long term interests. To the extent that single fuel entry into the gas retailing market is feasible, then Origin is correct in its view. However, to the extent that stand alone gas retailing is impracticable, due to the thinness of the market and the low dollar margins involved, then no reasonable increase in the margin will encourage stand alone competition. Increasing the price would serve only to penalise customers, with no beneficial effect on competition.

As discussed in section 3 above, ACIL Tasman considers gas only competition in the South Australian market to be unlikely regardless of the level at which the standing contract price for gas is set. This is largely because it would require the retailer in question to refrain from pursuing a profitable extension of their business.

Another issue raised by Origin concerns the fact that only [redacted]% of gas customers in South Australia are dual fuel customers[53], in that they have an electricity account with the same retailer. Origin suggests that this low percentage does not warrant costs being determined on a dual fuel basis.

In ACIL Tasman's view this issue would require serious consideration if the Commission were to consider setting the standing contract price of gas by reference to broader economies of scope. In particular, concerns may arise if consumers were able to benefit from the economies of scope gained by dual fuel retailing without purchasing both fuels from the same retailer.

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[52] Origin, May 2011, 2011 Gas Standing contract Price Path Inquiry Response to ESCOSA on Draft Inquiry Report and Draft Price Determination, p19

[53] Origin, May 2011, p19

However, the Commission's draft determination does not take account of economies of scope in relation to activities other than acquiring gas customers. Given that competition for the acquisition of customers is being undertaken on a dual fuel basis, then economies of scope are indeed being realised with regard to the acquisition of customers and should be passed onto customers.

Another point made by Origin in its response to the Commission's draft determination is that only [redacted] per cent of customers who switch their gas account also switch their electricity account at the same time. Origin argues the Commission should apply the stand alone CARC to at least the remaining [redacted] per cent of the gas customer base.

In ACIL Tasman's view it is unsurprising that customer acquisition rates are less than 100 per cent. We would not expect that any market would be 100 per cent successful, whether in electricity or gas. However, in cases where a customer switched to Origin (or another retailer) for gas but not electricity, the standing contract price may be too low to cover the acquisition cost, at least conceptually. In these cases the retailer would pay a 'first fuel' commission, but would only be funded for the 'second fuel' incremental commission.

6 Methodology for analysing costs

The Commission asked ACIL Tasman to advise on a methodology for analysing retailer costs given the principles considered above, namely:

a) That it is not prudent for an energy retailer to seek to acquire gas customers in the South Australian retail energy market on a stand alone basis i.e. that a 'prudent' retailer will only seek to acquire gas customers on the basis that it is also seeking to acquire electricity customers, and

b) That the long term interests of South Australian energy consumers are best served by setting the gas standing contract price to recover only the incremental cost of acquiring gas customers.

This section discusses possible approaches to analysing retailer costs. As discussed below, the information requirements of a detailed "bottom up" analysis are quite demanding however. Given the current absence of the requisite information, the section also undertakes a "sensibility" check on the Commission's calculation of the incremental acquisition costs of gas customers, using information provided previously by Origin.

6.1 Possible approaches to analysing retailer costs

The relationship between joint, stand alone, and incremental costs means that two conceptual approaches could be taken to estimating the relevant incremental cost. One approach would be to estimate the incremental cost of 'second fuel' customer acquisition costs directly (i.e. estimate the costs that are incremental to acquiring the customer's 'first fuel' account). The alternative approach would take the stand alone cost for gas retailing and deduct the economies of scope.

As Sapere identified, Origin has been unable to provide financial information which distinguishes between the various categories of cost relevant to the Commission's review. In particular, it has been unable to distinguish between the cost of supplying gas to standing contract customers and market customers. It has also been unable to distinguish between the costs associated with electricity and gas retailing[54].

We understand that Origin is by no means unique in this. Other retailers would have difficulty in producing such granular information. While this supports the Commission's view that competition in the gas market happens mainly on a dual fuel basis, it makes estimating the incremental cost of acquiring customers more difficult.

[54] Sapere, 2011, Op cit, p75

Consistent with this, the cost estimates of retailer operating costs and customer acquisition costs provided by Origin were national averages of the cost of supplying services and acquiring customers for both electricity and gas. The lack of detail in the available cost information from Origin, and indeed retailers more generally, constrains the Commission's ability to estimate incremental cost directly.

It would be possible, conceptually, to undertake a detailed bottom-up analysis of retail customer acquisition costs. Such analysis would be based on an understanding of the process of acquiring customers, and would involve mapping the process and then requesting further information from Origin. The information would need to be broken down into categories that enable analysis of cost drivers (and specifically the extent to which each category of cost is incurred jointly for electricity and gas or incrementally for gas).

The cost information provided by Origin could be benchmarked to identify efficient costs, in total and/or by cost category.

Possible categories for analysis could include:

- Commission/sales agent cost
- Postage
- Telecommunications
- Information booklets/confirmation packs
- Credit checking
- Sales overheads
- Data processing

Through the analysis of each cost category it would be possible to estimate the likely extent of costs which are incremental to acquiring gas customers. For example, the process of verifying the creditworthiness of a person for their electricity account may be sufficient to enable a retailer to take on their gas account as well without incurring extra cost. On the other hand, we understand that the sales agent cost payable for acquiring a 'two fuel' customer is only 50 per cent higher than the cost payable when just one fuel is acquired.

In practice, it seems unlikely that Origin would be able to provide the necessary information to complete an exercise of this kind expediently, if it could be completed at all.

An alternative approach would be to estimate the approximate size of the economies of scope in customer acquisition costs, which is the approach the Commission used in its draft determination.

6.2 Sensibility check of the Commission's assumptions

Using the information provided previously by Origin, it is possible to conduct a broad sensibility check of the assumptions used by the Commission in the draft determination.

The Commission's approach was that CARC costs should be set with reference to the corresponding cost of retailing electricity, but that the acquisition component (only) should be adjusted downwards. The adjustments were set out in Table 1 above, and are reproduced for convenience in Table 3 below.

Table 3 **Commission calculation of acquisition cost**

Item	Value ($Dec 11)
CARC allowance from electricity	39.46
LESS Retention component	6.60
LESS Transfer component	2.20
LEAVES Stand alone acquisition component	**30.66**
LESS Adjustment for lower switching rate	7.91
LESS Adjustment for incremental CARC approach	6.82
LEAVES adjusted acquisition cost	**15.92**
PLUS retention and transfer components	8.80
LEAVES draft CARC allowance	24.72

For the draft determination, Origin provided an analysis of retail operating costs, with a separate analysis of customer acquisition costs[55]. Customer acquisition costs included costs allocated to "customer sales and operations" and "strategic direction". The total acquisition cost per customer was estimated by Origin to be $[redacted] or the year 2010/11.[56]

As discussed above, however, these costs are averaged across gas and electricity acquisitions, and single and dual fuel acquisitions.

Origin did not provide information regarding the proportion of its forecast customer acquisitions that are electricity only, gas only and dual fuel. For the purposes of this analysis, therefore, we assume that Origin's new acquisition of customers will be in the same proportions for gas and electricity as the overall

[55] This information was provided by Origin on a confidential basis

[56] Origin, spreadsheet entitled "Retail OPEX for info request.xlsx", received by email dated 4th May 2011 from Mr R. Haig of the Commission

numbers of residential and small business customers available to be acquired by Origin (as represented by the number of customer accounts in South Australia served by retailers other than Origin). This assumption allows us to translate the Commission's assumed stand alone and incremental customer acquisition costs into an average which can be compared to Origin's acquisition cost per customer.

The Commission's Annual Performance Report indicates that in 2009/10 there were 177,559 gas accounts and 667,545 electricity accounts held by retailers other than Origin for residential and small business customers in South Australia[57]. Therefore the analysis assumes that some 79 per cent of Origin's account acquisitions will be electricity and 21 per cent gas.

Table 4 uses this information to calculate a weighted average of the per customer acquisition costs allowed by the Commission for electricity and gas[58]. Thus the stand alone allowance for an electricity customer is weighted by the percentage of electricity accounts, and the incremental acquisition cost for a new gas customer is weighted by the percentage of gas accounts.

Table 4 **Weighted average customer acquisition cost**

	Percentage of accounts	Acquisition cost
Electricity accounts	79%	30.66
Gas accounts	21%	15.92
Average cost per customer		27 .56

Data source: ACIL Tasman calculations

As above, Origin's forecast its average acquisition cost to be $[redacted] per customer account for 2010/11. Comparison of this cost with the table shows that the Commission's weighted average customer acquisition cost of $27.56 is above Origin's forecast for 2010/11.

We note that Origin has not provided a detailed description of the costs included in its analysis of forecast acquisition costs, so that it is not possible to be certain that all of these costs are properly included..

A final point to note is that in practice, customers on the standing contract are not usually "acquired". Rather they tend to be legacy customers, and as such do not in fact impose any acquisition cost on the retailer. Similarly, a standing contract retailer is unlikely to put effort into recruiting customers onto the

[57] ESOCSA, November 2010, 09/10 Annual Performance Report South Australian Energy Supply Industry, p135 to 136

[58] Note that each dual fuel customer is credited with a stand alone electricity cost plus a gas incremental cost.

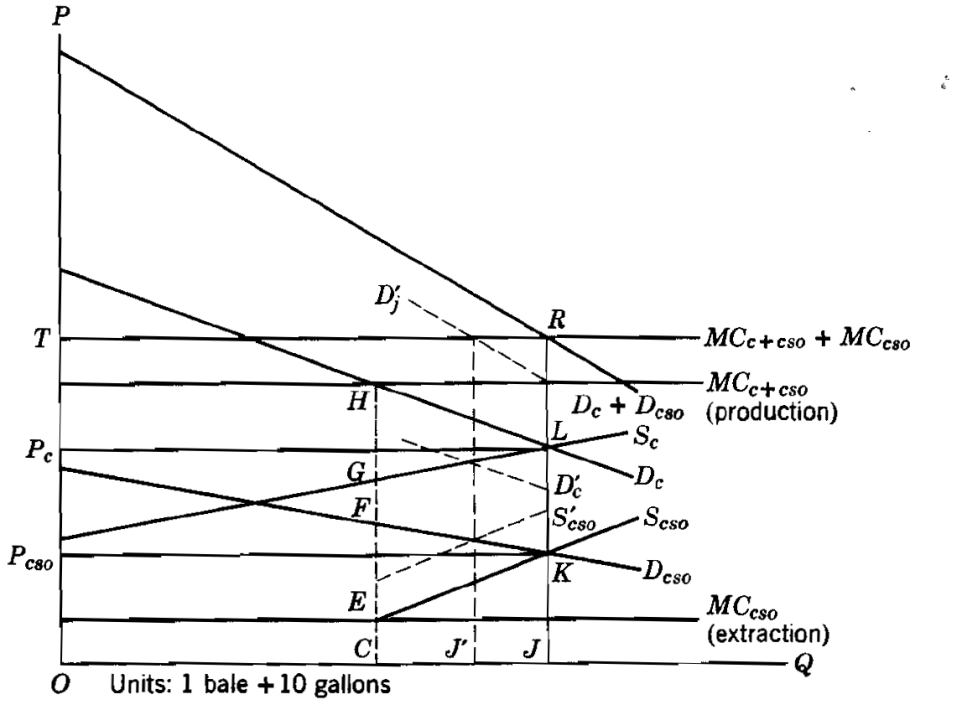
standing contract in preference to its market contract offers. However, given that the standing contract price is being set at a level sufficient to enable new entry into the mass contract market, it is appropriate to include a component for acquisition cost within the CARC element of cost.

Acknowledging that there is a margin of error involved, given the lack of relevant data available, our view is that the Commission's assessment of customer acquisition cost is sufficient to cover the acquisition costs reported by Origin.

A Kahn's principles for allocation of joint costs

Figure A1 re-produces the example provided by Kahn for the joint production of cotton and cotton seed oil. MC_{c+cso} is the joint cost of producing cotton and cotton seeds. MC_{cso} is the marginal cost of the separate production process of extracting cottonseed oil from the seeds. The figure shows separate demands for cotton (D_c) and cottonseed oil (D_{cso}). The intersection of the combined demands (D_c plus D_{cso}) and the combined marginal cost curve (MC_{c+cso} plus MC_{cso}) establishes the equilibrium output OJ.

Figure A1 **Joint production for cotton and cottonseed oil**



Source: Kahn, 1998, Vol I p81, Figure 3

The separate demand curves then determine the separate prices at which OJ cotton and OJ cottonseed oil will sell. Competitive supply functions S_c and S_{cso} indicate how much of the joint cost the two types of customers must pay.

The competitive supply function for cottonseed oil follows MC_{cso} up to quantity OC. Up to that point, the demand for cotton is so strong that the price of cotton covers all joint costs. However beyond OC, additional offerings of fibre force prices below MC_{c+cso} so that for additional supplies of oil to be

supplied, the price of cottonseed oil will need to make a contribution to joint cost. The competitive supply function for cotton fibre is determined equivalently, by determining how much of a contribution oil purchasers make (over and above MC_{cso}) to the joint costs (MC_{c+cso}). Thus the relative demand for each product plays an important role in allocating the underlying joint cost.

B Rail access regimes and definition of the ceiling price

NSW Rail Access Regime

For example, the NSW Rail Access Regime involved a floor test and ceiling test as follows:

(i) Prices will be negotiated so that the following requirements are satisfied[59]:

> (a) revenue from every Rail Operator or group of Rail Operators must at least meet the direct cost imposed by that Rail Operator or group of Rail Operators; and for any line section or group of line sections, the full incremental costs, including incremental fixed costs, must at least be met by revenue from the Rail Operators of those sections. (The 'floor test')
>
> (b) for any Rail Operator or group of Rail Operators, revenue must not exceed the full economic costs of the infrastructure (including reasonable costs of capital, overheads etc.) which is required by that Rail Operator or group of Rail Operators on a stand alone basis. (The 'ceiling test')
>
> (c) total Corporation revenues must not exceed the stand alone economic costs of the entire NSW rail network.

Australian Rail Track Corporation (ARTC)

In December 2010, ARTC put forward a proposed Access Undertaking for the Hunter Valley Rail Network, which included combinatorial ceiling and floor revenue limits, as follows[60]:

4.2 Floor Revenue Limits

> (a) Access revenue from every Access Holder must at least meet the Direct Cost imposed by that Access Holder.
>
> (b) For each Segment or group of Segments, Access revenue from Access Holders should, as an objective, meet the Incremental Cost of those Segments ("Floor Limit").

4.3 Ceiling Revenue Limits

---

[59] Section (i) of Schedule 3

[60] ARTC, Hunter Valley Coal Network Access Undertaking, 7 April 2011

(a) In relation to Segments identified as forming part of Pricing Zone 1 and 2 in Schedule E, Access revenue from any Access Holder, or group of Access Holders must not exceed the Economic Cost of those Segments which are required on a stand alone basis for the Access Holder or group of Access Holders ("Ceiling Limit").

(b) In relation to Segments identified as forming part of Pricing Zone 3 in Schedule E, the Access revenue from any Access Holder, or group of Access Holders must not exceed the Ceiling Limit where the RAB for those Segments is equal to, or falls below, the RAB Floor Limit for those Segments at the end of the calendar year (t -1).

(c) Access revenue for the purposes of this section 4.3 does not include Access revenue returned to a Contributor through the operation of a user funding agreement in accordance with section 10.2(c)(ii).

WA Access Regime

The WA Railway Access Regime provides an optional "safety net" framework, in that negotiations are able to proceed in accordance with the steps specified in the Code. Alternatively an access seeker can use other commercial negotiation processes.

Section 46 of the Code[61] requires the railway owner to gain regulatory approval for its proposed Costing Principles, which set out the basis for calculating the floor and ceiling price tests.

The floor cost is the incremental cost that results from the access seeker's operations and use of infrastructure. Incremental costs are defined as the operating and capital costs and overheads (where applicable) that the owner would otherwise be able to avoid in the 12 months following the proposed access. Total payments by all rail operators and entities must not be less than the total of the incremental costs resulting from the combined operations of all operators on the route[62].

The ceiling cost is defined in terms of a total cost comprising operating costs, capital costs and attributable overheads. Under the ceiling test, an operator that is provided with access to a route must pay no more than the total costs attributable to that route. In addition, the total payments made by all operators that are provided with a route (or part of a route) must not be more than the total costs attributable to the route[63].

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[61] Railway (Access) Code 2000

[62] Code, Schedule 4, clause 7

[63] Code, Schedule 4, clause 8

QR Network Access Undertaking

In Queensland, the QR Access Undertaking provides for floor and ceiling price limits that are calculated individually and combinatorially[64]. Thus section 6.2.2 (Price limits for individual train services) states that:

> (a) Price limits will apply to establishing Access Charges for a Train Service such that, over the Evaluation Period, the relevant Access Charge for a Train Service:
>
> (i) will not fall below the level that will recover the expected Incremental Cost of providing Access for that Train Service; and
>
> (ii) will not exceed the level that will recover the expected Stand Alone Cost of providing Access for that Train Service
>
> provided that, if that Train Service is the only Train Service using part of the Rail Infrastructure, compliance with these price limits will be assessed after giving consideration to the level of contribution provided by Transport Service Payments towards the relevant Rail Infrastructure.

And Section 6.2.3 (Price limits on train service combinations) states:

> (a) In addition to Clause 6.2.2, price limits will apply in respect of Access Charges to be established for a Train Service such that, over the Evaluation Period, the expected Access revenue (determined in accordance with Clause 6.2.3(c)) for any combination of Train Services incorporating a Train Service:
>
> (i) will not fall below the level that will recover the expected Incremental Cost of providing Access for that combination of Train Services; and
>
> (ii) subject to Clause 6.2.1(b), will not exceed the level that will recover the expected Stand Alone Cost of providing Access for that combination of Train Services,
>
> provided that compliance with these price limits will be assessed after giving consideration to the level of contribution provided by Transport Service Payments towards the relevant Rail Infrastructure.

[64] QR Network, Draft Amending Access Undertaking to the QR Network 2010 Access Undertaking – Implementing the Investment Framework, 24 December 2010

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