



**South Australian Council of Social Service Submission on the
Electricity Standing Contract – Wholesale Electricity Costs
Discussion Paper**

**SACOSS Submission
July 2012**

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SACOSS Submission, July 2012

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Executive Summary

South Australian households and small businesses were formally able to choose their electricity supplier from January 2003. 2012 therefore represents the 10th year of a contestable electricity market for these over 800,000 small customers. With average bills around \$2000 per annum, this is a market worth over \$1.5bn annually.

The standing electricity contract provides a regulated price that serves to provide a degree of consumer protection as the market transitions from the monopoly that existed at Market start to one of effective competition.

The regulatory allowance for Wholesale Electricity Costs (WEC) is the subject of this review and represents the largest single component of the regulated price.

The term '*headroom*' is used to describe the difference between competitive costs and what the regulated price effectively allows for. Implicitly or explicitly, this is the principal agent for encouraging competition to appear and therefore for the market to develop and function as intended.

This invokes two questions: Firstly, a question as to what is enough headroom? Secondly, a question as to whether the use of headroom is the only way to deliver a competitive market?

The first question is at the heart of this current inquiry. The second question is a more forward looking one and is also canvassed in this submission.

SACOSS encourages the Commission to abandon the use of (implicitly or explicitly) elevated headroom as a tool for driving competition, set the WEC at a more reasonable level and consider, with government, industry and consumers, what other methods might best serve the long term interests of consumers.

In our view, 10 years is long enough to form a view on the long term and 10 years is certainly long enough to represent a transition. South Australian consumers have been asked to tolerate inflated prices for a decade on the basis that it is in their long term interests to see a competitive market develop – the end game being that effective competition is the only sustainable way to set prices.

The Discussion paper consultation is focussed on “... whether or not the forward cost of wholesale electricity is now materially lower than the WEC allowed by the Commission in the price determination”. ESCOSA has identified three key questions and the SACOSS response is summarised below:

1. *What approach should the Commission adopt to setting wholesale electricity purchase costs for standing contract pricing purposes and why should that approach be used?*

SACOSS is not of the view that the current LRMC and RPM approach has proven effective. It is the SACOSS view that '*headroom*' is a very blunt instrument for pursuing the long term interest of consumers. Further, this blunt instrument is becoming even more so over time.

SACOSS is of the view that the Commission is now in a position where it must take account of a range of methodologies to estimate as close as possible the actual wholesale costs of all retailers. On this basis, greater weight must be given to spot and forward contract prices regardless of liquidity concerns.

In order to expand on this, SACOSS commissioned advice from Mr Bruce Mountain (Director, Carbon Market Economics). His advice (the *CME Report*) is attached to this submission.

SACOSS expect the Commission to consider a hybrid forward looking and backward looking consideration of wholesale costs that considered a combination of spot, contract and LRMC estimates appropriately weighted.

2. Is the forward market for wholesale electricity in South Australia sufficiently liquid to provide reliable forecasts of the energy purchase costs of a prudent and efficient electricity retailer with the standing contract obligation?

SACOSS agrees with the CME report that market observations (spot and exchange traded) can be used to provide reliable forecasts of the energy purchase costs of a 'prudent and efficient' electricity retailer. SACOSS has formed a view that, although thinly traded, exchange traded forward contracts are unlikely to understate the costs to which a prudent retailer is exposed.

This submission also provides discussion of the South Australian market structure and challenges the notion of a theoretical prudent and efficient retailer being anything other than the gentailer model that dominates the South Australian market.

3. If so, should the Commission change the WEC component of standing contract prices?

SACOSS is firmly of the view that the WEC component should be changed. The submission provides evidence of substantial headroom in the current standing contract and that this allowance is demonstrably and materially higher than that required to maintain a reasonable level of competition in the market. Further, it is the view of SACOSS that the use of a WEC with implicit headroom is now an inappropriate and demonstrably ineffective mechanism for driving a transition toward a competitive market.

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Introduction

The bigger picture – a discussion of headroom

Of the final retail electricity price paid by consumers, the three main components that are exposed to competition between retailers are wholesale energy costs (including the costs of each retailer meeting its Renewable Energy Target obligations), operating costs (including the cost of delivering South Australia's Residential Energy Efficiency Scheme [REES] obligations) and margin (or "profit"). These competitive components represent around 45% of the final price paid by consumers. Of this, the wholesale energy component represents approximately 75%.

So, by inference, if a retailer is able to make a competitive offer in the market of something like 10% below the standing contract rate (as is currently the case), this retailer must have found a way to supply to the market with these components at around 20-25% less than that allowed for in the Determination. Clearly, the wholesale component must represent the major source of this ability to compete.

The term '*headroom*' is used to describe the difference between competitive costs and what the regulated price effectively allows for. Implicitly or explicitly, this is the principal agent for encouraging competition to appear and the market to develop and function as intended.

This invokes two questions: Firstly, a question as to what is enough headroom? Secondly, a question as to whether the use of headroom is the only way to deliver a competitive market?

The first question is at the heart of this current inquiry. The second question is a more forward looking one and it is appropriate to consider the objective of the standing contract before debating the merits of different approaches.

According to ESCOSA's 2009 Review of the methodology¹:

“ effective competition takes time to evolve, and transitional regulation of retail prices was imposed by the South Australian Government to protect vulnerable customers and ensure small consumers had access to a basic standard of service at a reasonable price. In virtually every energy market where competition has been developed in the retail sector, regulatory or government control of prices has applied for a period of time until the competitive market is functioning properly.”

So, in the long run, it is assumed that a competitive market will replace the role of price regulation. The current situation must therefore be viewed as part of the transition from monopoly provider (the pre-2003 situation where AGL had all small customers) to an openly competitive market where no one participant can exercise substantial or sustained market power.

On this basis, if the headroom was effectively zero (or so low that the potential gains from participating did not overcome costs and risks) then this transition would stop. This may be appealing to some but the quasi-market in SA remains and, despite its shortcomings and risks, it is a reality and the approach to the small customer market must either regress or advance. Stagnation is unlikely to be in the long-term interests of consumers.

The immediate question then is how much headroom is appropriate? Unfortunately, this is virtually the same question as: *How much should standing contract customers be required to pay above competitive prices?*

¹ www.escosa.sa.gov.au/library/091023-RetailPriceMethodologyReview-DiscussionPaper.pdf page 17

The flippant answer to this is “*Nothing, they can just switch to a cheaper market offer*”. On face value this is reasonable. Except for the observed “sticky customers” – a rather large cohort who have not showed any inclination to move off the standing contract in the nearly 10 years since FRC appeared in SA (January 2003) – and the reality of behavioural economics apparent in energy markets (particularly for residential consumers) that sees customers not switch to what is apparently a lower price.

Figure 1 shows the slow erosion in the proportion of residential and small business customers that remain on the standing contract. Total customer numbers are rising at around 1% per annum.

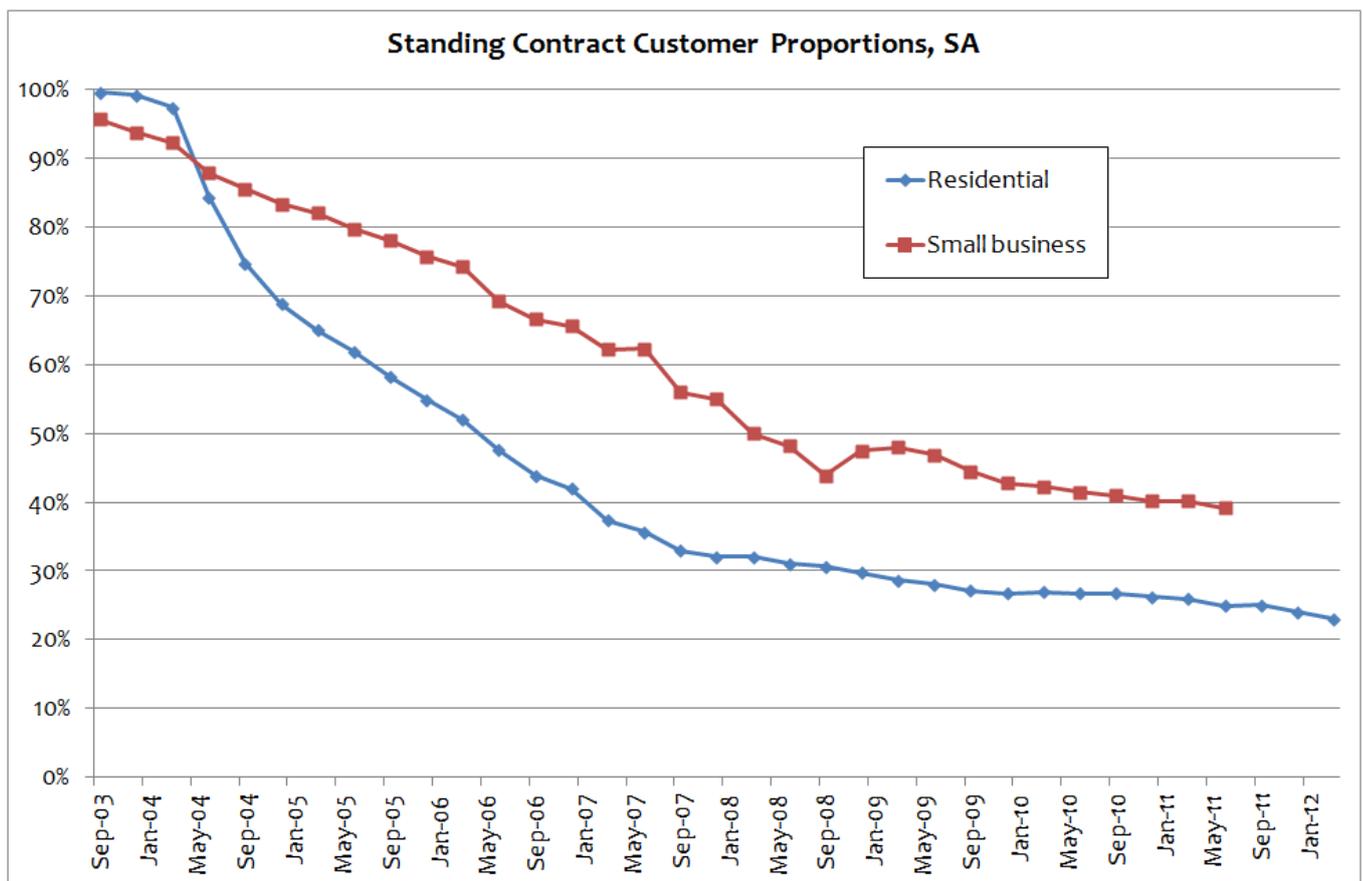


Figure 1. Standing Contract Customer Proportions since the introduction of FRC in SA (2003-)

As can be seen, if the intention is to keep headroom at a level that keeps eroding the standing contract until it is no longer material then this can be expected to be a protracted and expensive process. The slow decline in residential numbers from 2008 is consistent with the scale of change expected from older customers moving into different accommodation or passing away. Not necessarily a response to the market. This also suggests that another 5 years might see this number only fall to around 150,000 – still a sizeable number that will impact on the prices faced by all consumers in the market.

This leads to the longer term question as to the use of headroom in the regulated price to encourage (or ‘manufacture’) competition as measured by customer transfers (or churn as it is known). The role of headroom in price regulation as a transitional measure can now be seen to be having a diminishing effect on this transition to a ‘competitive market’².

² For a complete discussion of the role of safety net and the conflict between headroom and safety net, refer to attachment “Retail Price Regulation, Safety Nets and Headroom” written by st.kitts.associates.

On this basis, SACOSS encourages the Commission to abandon the use of (implicitly or explicitly) elevated headroom as a tool for driving competition, set the WEC at a more reasonable level and consider, with government, industry and consumers, what other methods might best serve the long term interests of consumers.

In our view, 10 years is long enough to form a view on the long term and 10 years is certainly long enough to represent a transition. South Australian consumers have been asked to tolerate inflated prices for a decade on the basis that it is in their long term interests to see a competitive market develop – the end game being that effective competition is the only sustainable way to set prices.

The bigger picture - where to from here?

The complexity of the market and the dynamics of the external economic environment have meant that even the best endeavours of a highly skilled and experienced organisation such as ESCOSA have enormous difficulty in setting a reasonable price.

The Standing Committee on Energy and Resources (SCER, the body that has replaced the Ministerial Council on Energy) has, in accordance with the Australian Energy Market Agreement, committed to a schedule of competition reviews by the Australian Energy Market Commission (AEMC). It is understood that South Australia is scheduled for 2015. This would follow a similar approach to that of 2008 where AEMC's advice was that competition was effective. The Minister at the time responded by stating that South Australia was not ready for de-regulation³:

"Before accepting a recommendation to remove price controls, the Government would want to see less polarisation of stakeholder views regarding effective competition."

SACOSS and others in the community sector, and small consumers more broadly, would hold to the view that competition remains ineffective.

This should not be interpreted as not agreeing that effective competition is a key plank in protecting the consumer interest. Competitive markets accompanied by targeted and effective interventions to preserve access for the vulnerable are accepted as the basic architecture of a sustainable arrangement and SACOSS is committed to pursuing this.

However, SACOSS is now convinced that 10 years is long enough to assess the efficacy of the use of regulated *headroom* as a transitional measure to the formation of competitive energy markets. Our conclusion is that the approach has failed to deliver effective competition, has done so at a cost to consumers and should no longer be perpetuated.

It is apparent that the approach employed by ESCOSA in the 2010 Electricity Standing Contract Price Determination has not proven to be as successful as hoped. That having been said, it is important to look forward and to implement an approach that will deliver for consumers. SACOSS is seeking a collaborative approach to this over the coming months as we approach the 10th anniversary of the launch of the contestable market for small electricity consumers.

In relation to this Inquiry, it is the SACOSS response that there are essentially three aspects to the way forward:

1. How to re-set the WEC component to apply from January 1st 2013
2. What approach to take for the rest of this regulatory period (to June 30th 2014)
3. What approach to take from July 1st, 2014

ESCOSA's Discussion Paper is focussed on the first two of these parts and this submission responds accordingly. SACOSS will also take the opportunity to outline its initial thinking on the third and, arguably, more substantive issue: what is a long term solution?

³ Hon Patrick Conlon MP , Minister for Energy 06 April 2009 letter to Dr John Tamblyn AEMC Chairman (ref 08MEN/0616)

The Discussion Paper

In relation to the Discussion Paper it is understood that ESCOSA intend to take the following approach. Firstly, to assess whether or not there has been a material change in costs from what was assumed in late 2010:

“ ... the Commission has determined that it is appropriate to re-examine the wholesale electricity cost assumptions that underpinned the price determination to confirm whether or not there has been a material change in those costs.”

Secondly, and contingent on the findings, to utilise the *special circumstances* provisions to amend or replace the initial determination.

“The Commission’s findings from this process will, in turn, provide a basis upon which it can determine whether or not it is necessary to make any consequential variations to the price determination... Under section 36AA of the Electricity Act 1996, where the Commission has determined that ‘special circumstances’ exist, it may either vary an existing price determination or revoke an existing price determination and substitute a new one. The Commission has not made any such determination at this stage; it is merely seeking to inform itself as to whether or not ‘special circumstances’ might exist.”

The Discussion paper consultation is focussed on “ ... whether or not the forward cost of wholesale electricity is now materially lower than the WEC allowed by the Commission in the price determination”. ESCOSA has identified three key questions where stakeholders may wish to focus attention:

1. *What approach should the Commission adopt to setting wholesale electricity purchase costs for standing contract pricing purposes and why should that approach be used?*
2. *Is the forward market for wholesale electricity in South Australia sufficiently liquid to provide reliable forecasts of the energy purchase costs of a prudent and efficient electricity retailer with the standing contract obligation?*
3. *If so, should the Commission change the WEC component of standing contract prices?*

Question One

What approach should the Commission adopt to setting wholesale electricity purchase costs for standing contract pricing purposes and why should that approach be used?

The Commission has at different times considered two main methods to estimating WEC:

- Based on market observations (particularly in relation to the forward contracting market in South Australia)
- Based on a new-entrant Long Run Marginal Cost (LRMC)

There are variations within each of these that can, and do, provide a relatively broad spread of results.

In relation to the Wholesale Energy Cost component, SACOSS made specific comment in its June 2010 submission to the 2010 Electricity Standing Contract Price Path Inquiry⁴. These comments expressed reservations about AGL's proposed use of LRMC:

The use of LRMC is, in principle, a reasonable measure of WEC over time. Its suitability at a point in time, such as for the initial WEC component of the standing contract price is, however, not so clear. The value assigned is dependent on a number of assumptions that may or may not be 'cost reflective' in the context of this retail price path.

Further, SACOSS was not supportive of determining the LRMC for the small customer load (the Net System Load Profile, NSLP) as a 'stand alone' demand.

SACOSS is of the view that the modelling of the LRMC as servicing the NSLP in isolation is likely to overstate 'reflective costs' and believes that this can be discounted and still provide room for competitive activity in the market.

The Commission acknowledged this in its Draft Determination⁵, and responded:

For the purposes of this Draft Decision, the Commission has accepted AGL SA's proposal to base the LRMC on the cost of supplying the NSLP on a stand-alone basis, although the Commission will investigate the potential benefits of extending the LRMC model to total SA load prior to making its Final Decision.

The final determination however concluded that extending the LRMC model would be too difficult⁶:

The Commission has therefore accepted AGL SA's proposal to base the LRMC on the cost of supplying the NSLP on a stand-alone basis.

⁴ Available from www.escosa.sa.gov.au/library/100630-ElectricityPricePath_2010-IssuesPaperSubmission-SACOSS.pdf

⁵ www.escosa.sa.gov.au/library/100906-ElectricityStandingContractPriceDraftDecision-PartA-StatementOfReasons.pdf page A-62 and A-68

⁶ www.escosa.sa.gov.au/library/101208-ElectricityStandingContractPrice-FinalPriceDetermination-PartA.pdf page A-71

SACOSS also expressed reservations about the use of a ‘greenfields’ approach – that is, estimating the cost (LRMC) of generation to meet demand assuming no generation exists. Combined, SACOSS was of the view that the use of LRMC by AGL (as accepted by ESCOSA) would be likely to overstate efficient costs in the market.

In the absence of reliable forward contracting data though, it was taken by the Commission to be a reasonable starting point for the price path. This was in the context of the Relative Price Movement (RPM) method being effective and putting downward pressure on prices if market offers were able to substantially undercut the standing contract offers. However, the out-turn has been that market contracts have been able to substantially undercut the standing contract but this both has escaped the RPM Index and has had little impact on the number of consumers on the standing contract (as shown in Figure 1).

The RPM Methodology

As mentioned, to some extent SACOSS’s initial concern about the apparently excessive WEC was moderated by the existence of the Relative Price Methodology. As described by the Commission in the original determination⁷:

“ The methodology, termed the Relative Price Movement (RPM) methodology, involves an examination of retailer costs during 2011, such that a cost reflective price can be set on 1 January 2011. At the commencement of each financial year thereafter, the Commission will adjust the standing contract price in line with movements in market contract prices. These price movements will be made subject to prices sitting within a floor and ceiling that have been established by the Commission. “

SACOSS has previously discussed with Commission staff an issue with the formulation of the RPM Index. Our question was simply, “what would it take for the Index to lower the standing contract price?” Given that we had seen price discounts in the market and, according to Commission staff, these were apparently being taken up at greater rates than previously, why wasn’t this being reflected in the RPM Index? Surely, the impact of network charge pass throughs could be stripped out to assess the impact on the retailer costs?

SACOSS believes it is appropriate to revisit some commentary from the South Australian Centre for Economic Studies (SACES) commissioned by ESCOSA prior to implementing the RPM Index methodology. Extracts from the SACES report⁸ are provided below:

6.1 Gaming

As explained by the Commission in its February 2010 Issues Paper, if the calculation of the RPM Index is based on predicted market contract prices which are yet to be implemented by retailers, there may be an incentive for retailers to undertake some ‘gaming’ when submitting their prices to the Commission.

In the economics jargon, we would ask whether the arrangements of the proposed RPM Index are ‘incentive compatible’, in the sense of creating a situation where the optimal strategy for each retailer is to truthfully reveal the information that it holds. Our view is that the RPM Index as structured probably is not incentive compatible, although the provision of a review process puts some boundaries on the scope for gaming.

... In our view, retailers would almost always benefit from having a high standing offer tariff. For retailers other than AGL, unless there is very strong competition in the market, a greater increase in the standing offer allows greater scope to increase their own prices. Indeed numerous market offers are benchmarked to the standing offer. And for AGL, while there might be some level beyond which further increases in standing offer tariffs would be

⁷ www.escosa.sa.gov.au/library/101208-ElectricityStandingContractPrice-FinalPriceDetermination-PartA.pdf

⁸ www.escosa.sa.gov.au/library/100810-RPMIndexMethodologyStdContractPricesReport-SACES.pdf

commercially disadvantageous, there is nothing to suggest that this level has ever been approached.¹⁴ [footnote: A commercial disadvantage to AGL could arise if the loss of profitable customers to other retailers outweighed the increase in profits on remaining standing offer customers]. Obviously one's view as to the relevance of the standing offer depends to some extent on whether one believes the market behaves competitively or oligopolistically.

... the end-period prices are predictions, and it would be difficult for anybody to establish at a later date that a convenient prediction error was other than the fortuitous outcome of a mistaken but genuinely held expectation.

... Gaming behaviour should also to some extent be constrained if the Commission implements the proposed tolerance band incorporating a price floor and price cap. This could, however, still leave retailers with considerable scope to overstate price movements.

... The Commission could announce that its first adjustment will use the RPMI movement, but that its second adjustment will include the RPMI minus the excess of predicted over actual movement for the first period. Under this model any exaggeration of the increase in market prices in the first period would be offset by a corresponding understatement in the second period.

[p.viii] There are also potential advantages to be had from calculating quasi-Fisher indexes after the event and using these in combination with the RPMI to adjust prices. This approach would at the least prevent an accumulation of errors arising from substitution bias and retailers' prediction errors. The Commission could also go further, and use a combination of RPMI and Fisher indexes to clawback previous-period pricing errors. This approach would greatly diminish any incentives for retailers to 'game' the RPMI.

Summary

SACOSS is not of the view that the LRMC and RPM approach has proven effective. As discussed earlier, it is the SACOSS view that 'headroom' is a very blunt instrument for pursuing the long term interest of consumers. Further, this *blunt* instrument is becoming even more so over time.

Given that the result has a material impact on all consumers, not just those on the standing contract, SACOSS is of the view that the Commission is now in a position where it must take account of a range of methodologies to estimate as close as possible the actual wholesale costs of all retailers. On this basis, greater weight must be given to spot and forward contract prices regardless of liquidity concerns.

In order to expand on this, SACOSS commissioned advice from Mr Bruce Mountain (Director, Carbon Market Economics). His advice (herein referred to as the *CME Report*) is attached to this submission.

The CME Report (Section 2) makes some important observations about the spot and contract markets in South Australia. In summary the report has found that South Australia's higher than average volume-weighted spot prices can be attributed to a small number of high priced events and, in turn, these high priced events can be traced to periods not of scarcity of supply but of the economic withholding of capacity of un-hedged pivotal generators. The implication being that both spot and contract prices for the Jan-Mar quarter (referred to as Q1) are the principal determinants of the wholesale energy costs of retailers in SA. And, further, that the South Australian market structure (a concentration of vertically integrated generator-retailers) allows these prices to sit above what a more competitive supply-demand balance might provide.

The CME Report (Section 3) discusses possible approaches to setting the wholesale energy components of the standing contract. In relation to contract prices and the Exercise of Market Power, the report states:

“ ... to the extent that forward and futures contracts reflect expectations of the exercise of market power in the spot market, the use of these contracts in setting retail prices will mean that the impact of wholesale market power will be passed through to consumers in the standing contracts. This is a fundamental consideration, irrespective of other features such as contract market liquidity, that should be considered in deciding what weight should be placed on contract prices.”

The advice, however, does not support the use of LRMC as a substitute for market power and liquidity concerns in the spot and contract markets (Section 3.2). Instead, CME encourage the use of spot prices (possibly with a correction for the influence of market power) and to incorporate a degree of retrospectivity (a true-up of actual against expected volume weighted prices).

SACOSS agrees that the Commission must consider how it can revisit the WEC component regularly. The RPM approach is not the answer – as least as it is currently formulated. SACOSS is accepting that the Operating Cost and Margin decisions can hold for the price path period but that the WEC component is too variable to be set once only. The risk of WEC changes has historically been borne by consumers and it would be unrealistic or naive to expect that retailers (especially the big four) would accept much of this risk without somehow working out how to have it paid by their customers.

SACOSS would also expect the Commission to consider a hybrid forward looking and backward looking consideration of wholesale costs that considered a combination of spot, contract and LRMC estimates appropriately weighted.

Question Two

Is the forward market for wholesale electricity in South Australia sufficiently liquid to provide reliable forecasts of the energy purchase costs of a prudent and efficient electricity retailer with the standing contract obligation?

The question has two parts: is the forward market materially more liquid than it was in 2010? And, does this translate to a retailer with the standing contract obligations?

SACOSS understands that the forward contract markets combine over-the-counter (OTC) and exchange traded instruments. SACOSS also understands that these instruments have the effect of subduing the volatility of the wholesale pool.

The Discussion Paper provides some data on exchange traded futures that indicate that future costs are lower than has been the case in past years. This is supported by the CME report (attached). The OTC market involves commercially confidential transactions between generators and retailers (and intermediaries). The exchange traded data therefore does not necessarily reflect all of the transactions.

The Australian Financial Markets Association (AFMA) does provide a useful summary of all transactions (by volume) in its annual reports. According to AFMA, the Australian Financial Markets Report (AFMR)⁹ is

- the definitive survey of Australia's financial markets; and,
- the only annual report with comprehensive coverage and statistics on Australia's OTC market and the equity and futures exchanges.

The AFMR defines an Electricity Liquidity Ratio as the total contract turnover (as a volume in MWh) divided by the total NEM system demand. The 2010-11 Report (in the accompanying data spreadsheet) reports the NEM wide results as follows:

Electricity Liquidity Ratio (megawatt hours)			
Survey Year	NEM System Demand ^a	Turnover	Ratio
2006-07	193,912,940	580,173,134	3.0
2007-08	195,138,190	544,875,249	2.8
2008-09	197,364,824	508,902,311	2.6
2009-10	195,336,797	619,910,143	3.2
2010-11	192,295,774	863,238,186	4.5

^a NEM System Demand data is supplied by d-cyphaTrade

Figure 2. AFMA Electricity Liquidity Ratio (2010-11)

The above table includes both OTC and exchange traded turnovers. The report does not breakdown the exchange traded turnover by state but SACOSS has used the available data to replicate this approach for OTC contracts in the SA region:

⁹ www.afma.com.au/data/afmr.html

	SA Customer sales (GWh)	SA Turnover	SA Liquidity Ratio	NEM
2006/07	12,103	14,128	1.17	1.74
2007/08	12,026	12,686	1.05	1.56
2008/09	12,758	10,312	0.81	1.05
2009/10	12,909	21,367	1.66	1.13
2010/11	13,524	25,770	1.91	1.64

Figure 3. SA and NEM Electricity Liquidity Ratio OTC only (2010-11)

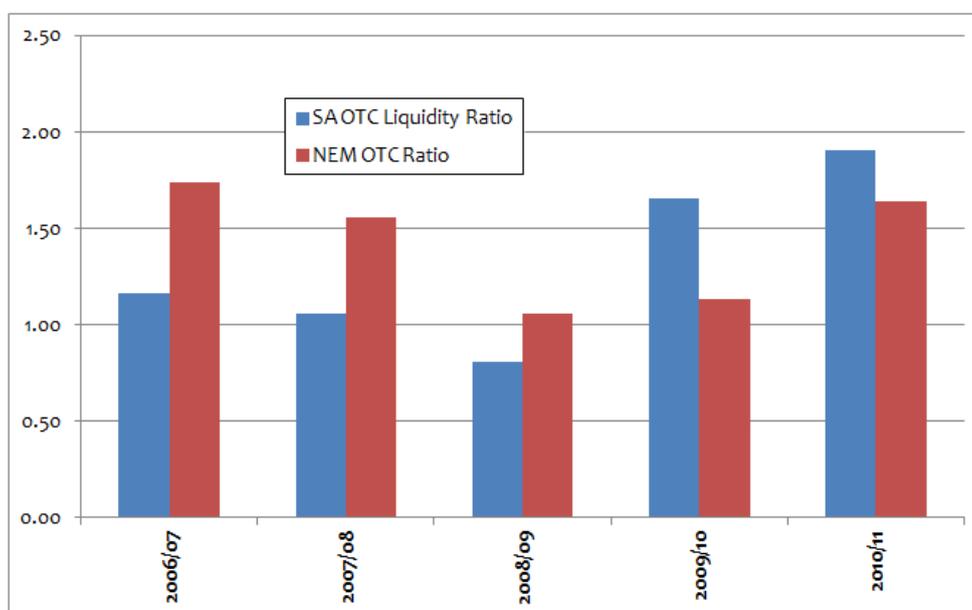


Figure 4. SA and NEM Electricity Liquidity Ratio OTC only (2010-11)

This indicates that liquidity in the SA market has risen from past lows and is comparable to NEM wide results. SACOSS does not have access to more up to date data but expects ESCOSA will. The CME Report (at Figure 8) shows that 2011 exchange traded volumes remain low compared to total energy transacted.

One reason for lower liquidity in South Australia is the vertical integration apparent in the market. As AGL stated in their 2010 Price Proposal (Annexure 2, p50):

“all major power plants in SA are either owned or underwritten by the largest retailers in the state.”

A question then is if the observed exchange traded futures are more likely to underestimate or overestimate the costs of “a prudent and efficient electricity retailer with the standing contract obligation”? Part of the answer to this question is whether the main retailers are net short or net long in the current arrangements (that is, do they have generation capacity to cover all of their demand or not).

What is a “prudent and efficient retailer” in the SA Context? The answer to this is probably different for SA than in any other region in the NEM and certainly different to a textbook definition. The following is intended to paint a picture of vertical integration in the SA region of the NEM through a focus on the five main downstream entities in South Australia. These five players are:

- AGL Energy
- Origin Energy
- International Power – GDF Suez and their retail arm Simply Energy
- TRUenergy

- Alinta Energy

Noting that Alinta Energy Retail Sales (AERS) is a recent entrant to the retail market having been granted a retail license by ESCOSA in 2011, the four main players occupy 94% of the residential electricity retail sector. Secondly, the residential Gas sector, where the same four occupy the entire market. Thirdly, the generation market where the five own or control the entire dispatchable generation fleet, 56% of the state’s wind capacity (MW) and 92% of all generation sales (MWh).

These market shares are shown in the following table (TABLE 1 data has been sourced from ESCOSA, AER and AEMO). The table also calculates a Herfindahl-Hirschman Index (HHI) for each sector. In recent work for the Australian Energy Markets Commission (AEMC), the Competition Economics Group (CEG) ¹⁰ describes the HHI as:

“ ... calculated by adding the sum of the squares of the market shares of each firm within the market. Markets with higher HHIs are considered to be more likely to suffer from weaker competition, although whether this is the case will depend on a wide range of other factors impacting competition. The ACCC’s Merger Guidelines state that the ACCC will be less likely to identify competition concerns when the HHI is less than 2000.”

HHI Table	Small Customer Market Share (2010-11)	Dispatchable MW	Wind MW	Total GWh
AGL	55%	36%	36%	24%
Origin Energy	19%	13%	0%	11%
TRUenergy	12%	6%	15%	3%
Simply	8%	23%	4%	22%
Alinta Energy	0%	21%	0%	32%
HHI	3555	2509	1567	2241

Table 1: Electricity Market Concentrations, SA Region 2010-11

As can be seen, the vertically integrated generator-retailer (or ‘gentailer’ model) is the dominant form of market participant and exists in concentrations that, in other markets, would trigger concerns over the level of competition present.

Table 2, below, builds on the same source data as Table 1, above, and illustrates the generation capacity of the gentailers against their small customer obligations. These obligations relate to the use of the Net System Load Profile (NSLP) to settle the small customer market – that is, all customers are assumed to have the same load profile.

¹⁰ www.aemc.gov.au/Media/docs/CEG-Report-ece57d9c-399c-4724-b5f0-a6ba319dca83-0.PDF [page30]. ACCC’s merger guidelines are available here: www.accc.gov.au/content/index.phtml/itemId/809866 [page 37]: “ ... As part of its overall assessment of a merger, the ACCC will take into account the HHI, as a preliminary indicator of the likelihood that the merger will raise competition concerns requiring more extensive analysis.”

	NSLP Market Share	NSLP (MW)	NSLP GWh	Dispatchable		Wind
	(2010-11)	Total: 2132	Total: 5539	MW	GWh	(MW)
AGL	55%	1164.6	3025.0	1,330	3,352	417
Origin Energy	19%	400.8	1041.0	484	1,482	-
TRUenergy	12%	263.2	683.8	228	419	177
Simply	8%	174.0	452.0	861	3,114	46
Alinta Energy	0%	0%	0%	784	4538	-

Table 2: Gentailer Physical Hedge Cover SA Region 2010-11

As stated in the June 2010 SACOSS submission to ESCOSA's Electricity Standing Contract Price Path Inquiry, SACOSS interprets the dominance of vertical integration as a market response: physical hedges are obviously more cost effective for retailers than contract based hedges. Table 2 does not take into account large customer obligations but does indicate that each of the gentailers has enough physical cover for their small customer obligations. It is therefore debateable as to whether there is any further need to imagine a theoretical prudent and efficient retailer.

Market Forces

The South Australian region is currently responding to a number of substantial upward and downward pressures that will be impacting on the market.

Downward pressure is coming from the softening of demand and the appearance of very substantial wind and solar generation capacity. The combined effect is that more generators are competing for less demand and those new generators are receiving additional revenue from outside the wholesale market (through the Mandatory Renewable Energy Target and the state Feed-in Tariff).

Upward pressure is coming from the steadily worsening load profile (consumption is falling but peak demand is not) and the introduction of a carbon price.

Figure 5, below shows the increase in renewable energy generation in SA since 2003-4 as compared to the increase in consumption since the same time. As can be seen, the growth in wind closely matched the increase in demand until around 2007-8 after which time not only has consumption softened but wind, and more recently, solar have continued to grow.

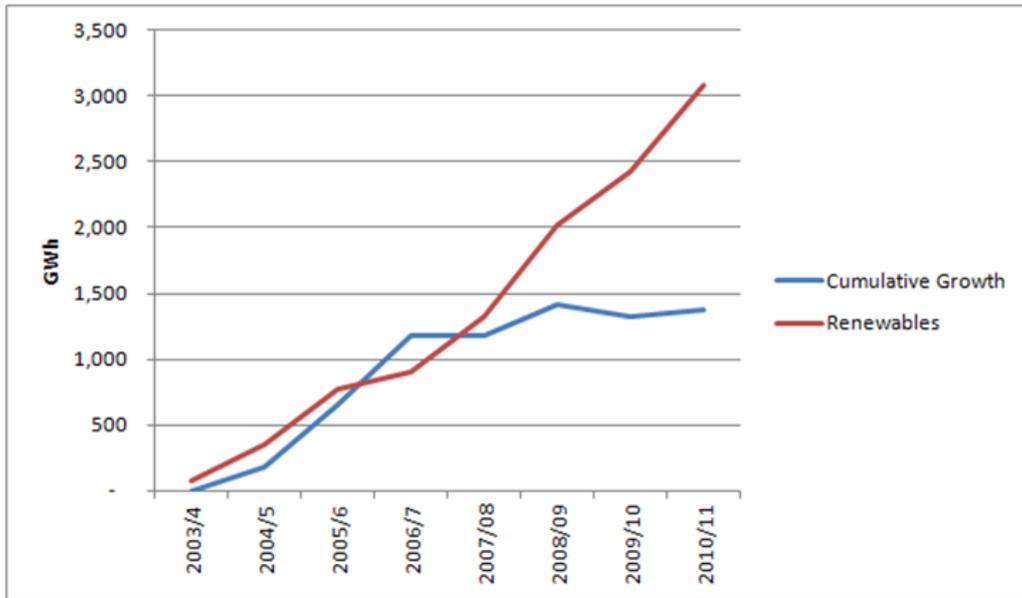


Figure 5. Comparison of growth in renewable energy generation and electricity consumption, SA Region

The recently released 2012 National Electricity Forecasting Report (NEFR) from AEMO ¹¹ indicates that soft growth is likely to be a feature for the immediate future.

In terms of upward pressure, Figure 6 shows the results of analysis of nine years of AEMO’s Net System Load Profile Data from January 2003 to December 2011. The chart plots the consumption of the 12 months prior to each date and the Maximum Demand recorded prior to each date. The Load factor (plotted as a percentage on the right-hand axis) represents the ratio of average to peak demand.

¹¹ www.aemo.com.au/en/Electricity/Forecasting/2012-National-Electricity-Forecasting-Report

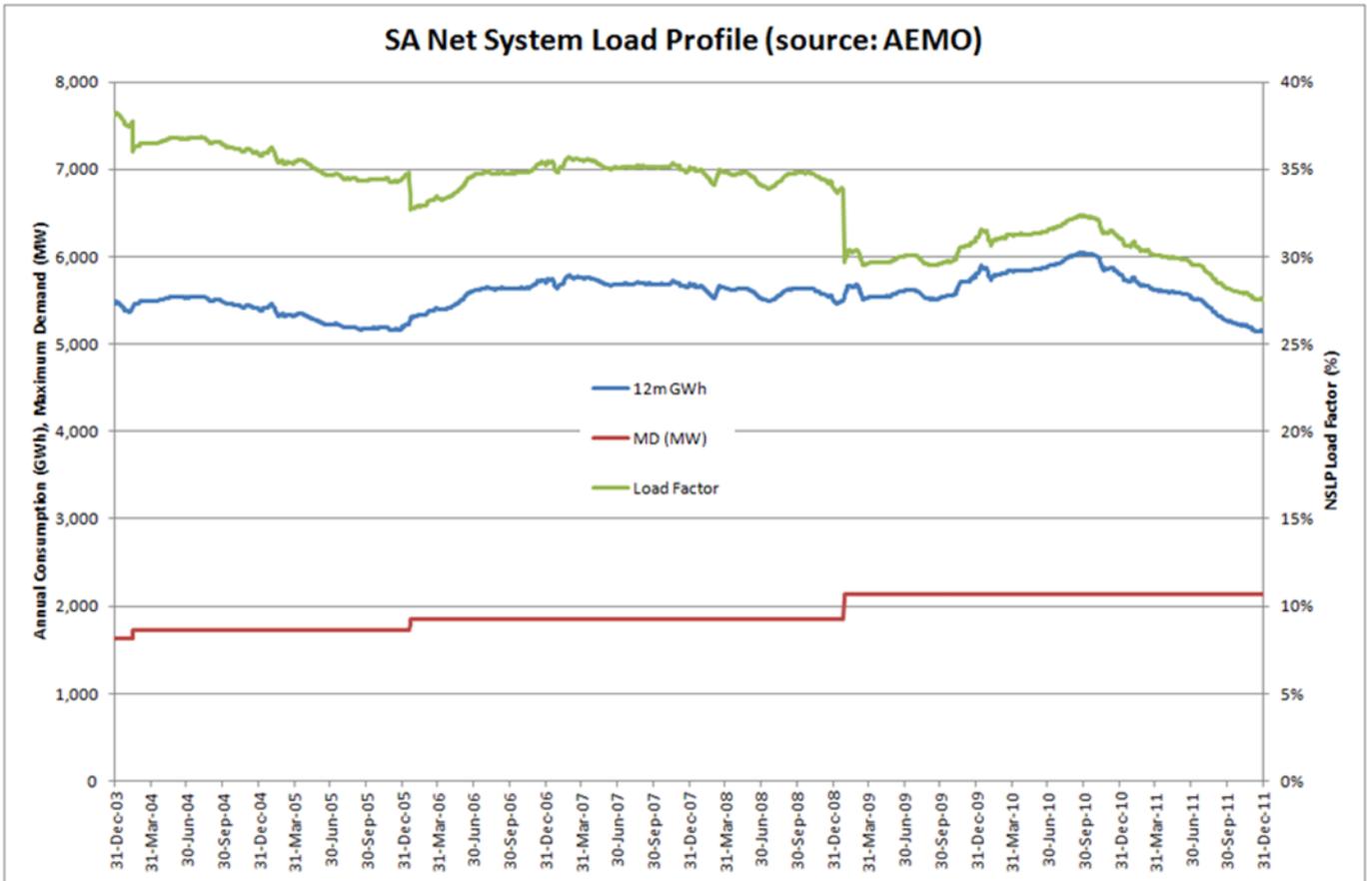


Figure 6. Net System Load Profile time series, SA Region

As can be seen, this load factor is steadily deteriorating. Lower load factors tend to result in higher prices since fixed costs (driven by maximum demand) are recovered over diminishing volumes (electricity consumption). This is the embodiment of South Australia’s notorious “peak demand” phenomenon.

In terms of the net effect of these upward and downward pressures, it is more likely that the current effects of the downward pressures would outweigh the more longer term impacts of the downward pressures of the worsening load profile. The carbon price is separately accounted for by ESCOSA.

The net effect then should be downward pressure on prices over the next few years (certainly for the remaining duration of the current retail price path). This is the expectation in a competitive market at least.

So, on the basis that there are indications that the OTC market is relatively liquid and generators can be expected to be seeking to contract output it would be SACOSS’s view that the exchange traded contracts would be unlikely to understate the costs to which a prudent retailer is exposed.

Question Three

If so, should the Commission change the WEC component of standing contract prices?

In response to Question 1, SACOSS is of the view that market observations should be a significant factor in setting the WEC component and, in response to Question 2, that exchange traded futures prices are unlikely to understate prices. SACOSS also believes there is good evidence of market transfer activity since the start of the current regulatory period and that this represents confirmation that headroom has been expanded significantly from what was the case in 2010.

Past surveys by ESCOSA and by the AEMC have confirmed that electricity is a low involvement product and that market churn is driven by active retailer marketing – very little happens based on consumers' independent initiative. Figure 7, shows that churn slowed considerably during the 2008-10 regulatory period but has subsequently returned to higher rates.

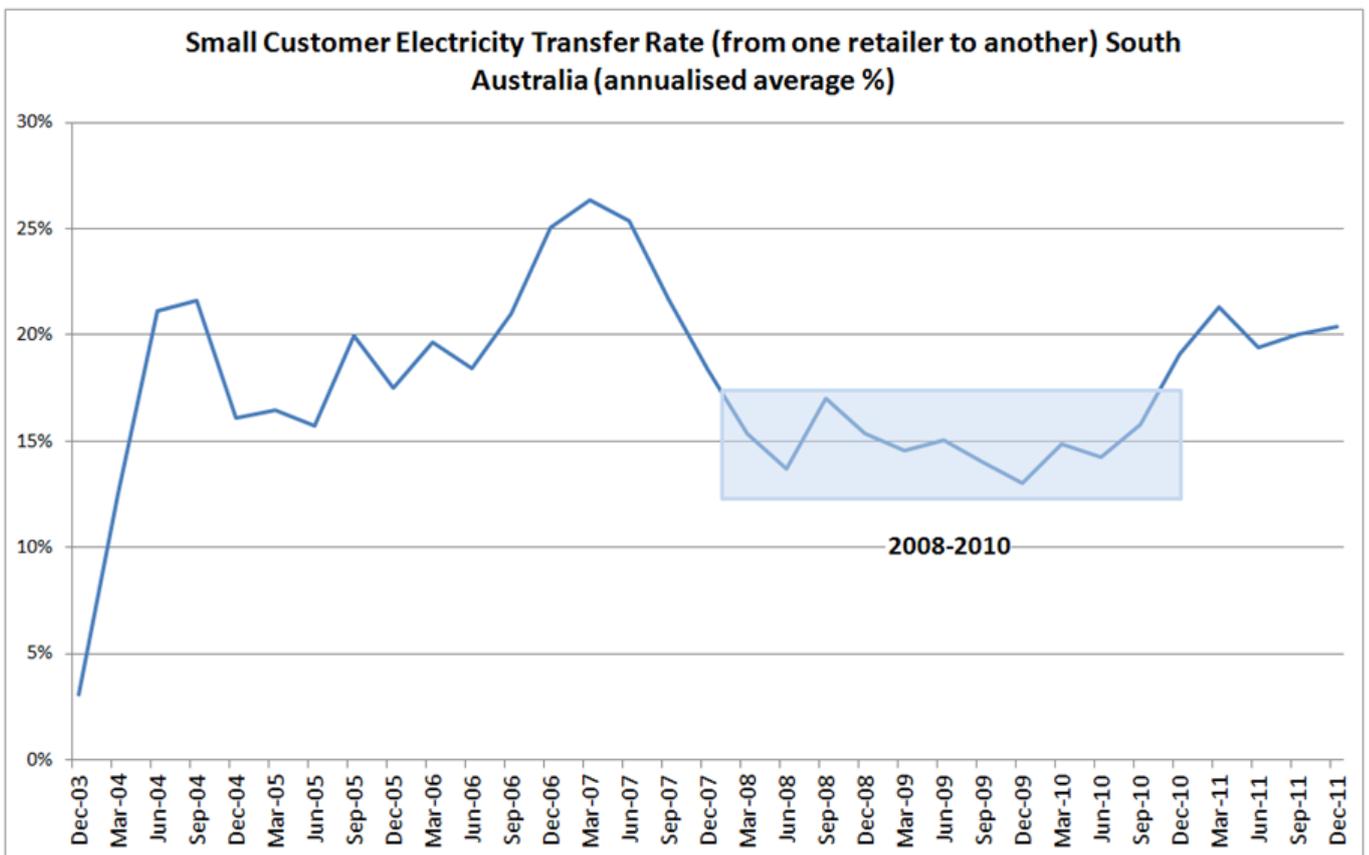


Figure 7. Small customer churn, SA Region

Figure 8 is a more comprehensive presentation of market activity by constructing a timeline of market transfers against ESCOSA's WEC allowances, Wholesale Pool Prices and some recent data on forward contract prices from the AEMC performed by NERA Economic Consulting as part of work on Market Power in the NEM.

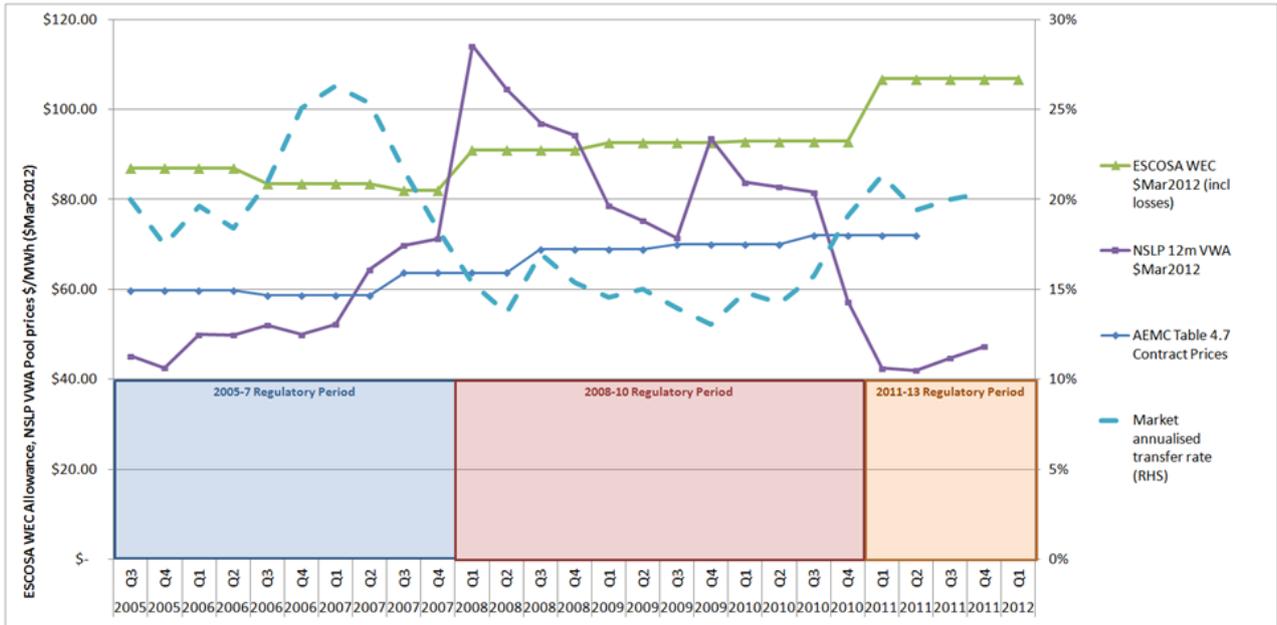


Figure 8. Small customer churn and indicators of Wholesale costs, SA Region

Figure 8 is intended to illustrate that where there is more headroom apparent, there is more churn. And since churn is a reflection of retailer confidence and ability to offer discounts, it is clear that significant headroom is apparent in the current regulatory period.

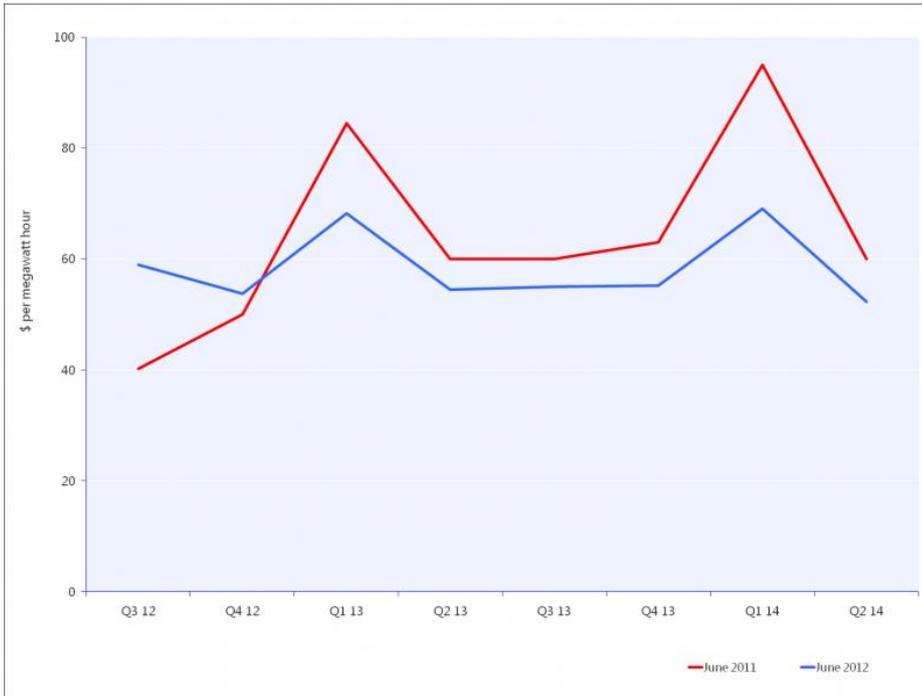
This is further supported by the data provided by ESCOSA (discussion Paper Table 3) for the remainder of the regulatory period and the following chart from the AER’s 2009 State of the Market Report (page 36) about forward contracts being entered into at the start of the regulatory period:



Sources: AER; d-cyphaTrade.

And, in recently updated date from the AER¹²:

¹² www.aer.gov.au/node/9764



In relation to the question as to whether the WEC component should be changed, it is the view of SACOSS that the current allowance is demonstrably and materially higher than that required to maintain a reasonable level of competition in the market. Further, it is the view of SACOSS that the use of a WEC with implicit headroom is now an inappropriate and demonstrably ineffective mechanism for driving a transition toward a competitive market.

Attachment 1: st.kitts.associates

SACOSS

ESCOSA WEC REVIEW JULY 2012

Comments on Retail Price Regulation, Safety Nets and Headroom

Att: Ms Jo De Silva

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17 July 2012

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Introduction

South Australian households and small businesses were formally able to choose their electricity supplier from January 2003.

This year, 2012, therefore represents the 10th year of a contestable electricity market for these over 800,000 small customers. With average bills around \$2000 per annum in 2012, this is a market worth over \$1.5bn annually.

The standing electricity contract provides a regulated price that serves to provide a degree of consumer protection as the market transitions from the monopoly that existed at Market start to one of effective competition.

The term ‘*headroom*’ is used to describe the difference between competitive costs and what the regulated price effectively allows for. Implicitly or explicitly, this is the principal agent for encouraging competition to appear and therefore for the market to develop and function as intended.

This invokes two questions: Firstly, a question as to what is enough headroom? Secondly, a question as to whether the use of headroom is the only way to deliver a competitive market?

The Standing Contract

As a background to answering these questions, it is important to understand the intended role of the standing contract. Three key players in policy and regulatory roles in this regard are the South Australian Government, the Essential Services Commission of South Australia (ESCOSA) and the Australian Energy markets Commission (AEMC). All three believe the standing contract provisions are a *safety net* for consumers:

The South Australian Government¹:

*“The investigation of appropriate protections for consumers from the impact of cost reflective tariffs, particularly vulnerable consumers is essential. ... One such protection in South Australia is to ensure the existence of a regulated ‘**safety net**’ tariff... the standing contract regulatory framework has enabled consumers to feel confident that the prices charged have been subject to stringent review by the independent economic regulator (ESCOSA). Vulnerable consumers particularly can be confident that together with regulated terms and conditions they have an appropriate level of protection.”*

ESCOSA²:

*“The Commission believes that the role of the standing contract price should be to restrain the potential exercise of market power and to provide a **safety net** for small customers. It should not represent the lowest sustainable energy*

¹ South Australian Government DMITRE submission to the AEMC Power of Choice Review Directions Paper (EPR0022) at page 3: <http://www.aemc.gov.au/Media/docs/Government-of-South-Australia--received-16-May-2012-f9eb3559-e240-4310-949c-1cb9b05c42c3-0.PDF>

² 2011-14 Electricity Standing Contract Price Determination, December 2010 at page A-31: <http://www.escosa.sa.gov.au/library/101208-ElectricityStandingContractPrice-FinalPriceDetermination-PartA.pdf>

price that might possibly be derived. The AEMC has also expressed this view in its Review of Energy Market Frameworks in light of Climate Change Policies³

It is critical that the standing contract price allows energy retailers the ability to compete vigorously with each other, while still providing a level of price certainty to those customers who, for whatever reason, are unwilling or unable to participate in the competitive retail market.”

AEMC⁴

*“If a competitive retail energy market is to emerge and thrive, it is critical that regulated energy prices are set in a manner that does not hinder the development of competition. Competitive retail markets will not develop where prices are set at a level which precludes discounted, competitive offers being made to customers. This implies that prices should be set to act as a **safety net** for customers unwilling or unable to take up a competitive, unregulated market offer rather than in an attempt to mimic the outcome of a competitive market. Where prices are set by a regulator over a longer timeframe, ensuring competitive “**headroom**” in the initial price determination is vital.”*

Depending on one’s definition of *safety net*, it is arguable that the co-existence of the concepts of *headroom* and *safety net* is unsustainable. The rationale offered is that this only needs to be the case while the market transitions from monopoly provider (the pre-2003 situation where AGL had all small customers) to an openly competitive market where no one participant can exercise substantial or sustained market power. According to ESCOSA’s 2009 Review of the Electricity Standing Contract Price Determination methodology⁵:

“effective competition takes time to evolve, and transitional regulation of retail prices was imposed by the South Australian Government to protect vulnerable customers and ensure small consumers had access to a basic standard of service at a reasonable price. In virtually every energy market where competition has been developed in the retail sector, regulatory or government control of prices has applied for a period of time until the competitive market is functioning properly.”

Safety Nets

According to the World Bank⁶, safety net programs can be seen as playing four general roles in development policy:

- *Safety nets redistribute income to the poorest and most vulnerable, with an immediate impact on poverty and inequality.*
- *Safety nets can enable households to make better investments in their future.*

³ Review of Energy Market Frameworks in light of Climate Change Policies Final Report 30 September 2009:

www.aemc.gov.au/Media/docs/Review_Final_Report-9f02959f-0446-48ba-89a1-5882d58e11fd-0.PDF

⁴ Review of Energy Market Frameworks in light of Climate Change Policies Final Report 30 September 2009: [p61-62] “5.4.1 Clarifying the purpose of retail price regulation www.aemc.gov.au/Media/docs/Review_Final_Report-9f02959f-0446-48ba-89a1-5882d58e11fd-0.PDF

⁵ www.escosa.sa.gov.au/library/091023-RetailPriceMethodologyReview-DiscussionPaper.pdf page 17

⁶ ‘For protection and promotion: the design and implementation of effective safety nets’ Margaret Grosh, Carlo del Ninno, Emil Tesliuc, Azedine Ouerghi 2008 The International Bank for Reconstruction and Development /The World Bank available at http://siteresources.worldbank.org/SAFETYNETSANDTRANSFERS/Resources/For_Protection_and_Promotion_complete.pdf

- *Safety nets help households manage risk.*
- *Safety nets allow governments to make choices that support efficiency and growth.*

It is probably the role articulated in the last dot point that is most relevant to the role of the standing contract. As explained in the publication:

An adequate permanent social assistance system can fulfill whatever redistributive goals the society has, freeing other sectors from the role and letting them concentrate on efficient provision of services. Thus, for example, energy sectors can price for efficiency, and trade policy can focus on growth rather than job protection. Short-term safety net programs can compensate those negatively affected by needed reforms or who may oppose and stall these reforms.

Following its 2008 Review of the Effectiveness of Competition in Electricity and Gas Retail Markets in South Australia, the AEMC published a Second Report on its recommendations on ways to phase out the current retail price regulation arrangements. A key feature of the recommendations was the “Energy Obligation”⁷:

Under the Commission’s recommended framework, all electricity retailers (the standing contract retailer and all new retailers) would be subject to an obligation to agree to sell electricity to small customers upon request. Similarly, all gas retailers would be required to agree to sell and supply gas to small customers on standing contracts on request. These obligations – referred to in this report as “the Energy Obligation” – would apply to the financially responsible market participant (FRMP) for the relevant premises.

It appears that the safety net role is more aligned with “the Energy Obligation” – the confidence that no-one will be left without someone to supply them – rather than any economic distribution or social policy effect.

Summary

The standing contract provisions are intended to constitute a safety net in South Australia’s small customer electricity market. However, it is apparent that this safety net is provided in the form of the most expensive supply contract in the market.

After 10 years of justifying this approach as a transition to a competitive market it is appropriate to question the efficacy of the standing contract in providing a safety net in South Australia’s electricity market.

Arguably, the current arrangements have failed to deliver either a genuine safety net or a competitive market.

⁷ [www.aemc.gov.au/Media/docs/Second Final Report-a427d665-c559-459b-9775-b091afa3c6bb-0.PDF](http://www.aemc.gov.au/Media/docs/Second_Final_Report-a427d665-c559-459b-9775-b091afa3c6bb-0.PDF) page 31

Attachment 2: The CME Report

**ELECTRICITY STANDING
CONTRACT - WHOLESALE COST
INVESTIGATION**

**Advice to the South Australian Council
of Social Service**

July 2012





CME is an energy economics consultancy focused on Australia's electricity, gas and renewables markets.

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1 Introduction

Context

This document is advice to the South Australian Council of Social Service (SACOSS), in the context of its response to the Electricity Supply Commission of Australia (the Commission) discussion paper “Electricity standing contract – wholesale cost investigation”.

The Commission is reviewing the wholesale electricity component of the standing contract. This is the contract on which any residential or small business customers who have not entered into a market-based contract with a licensed electricity retailer, are able to purchase electricity from AGL South Australia Pty Ltd.

The Commission has determined that it is appropriate to re-examine the wholesale electricity cost assumptions that underpinned its standing contract determination for the period from 1 July 2012, to confirm whether or not there has been a material change in wholesale costs. The Commission’s findings from this process will provide a basis upon which it can determine whether or not it is necessary to make any consequential variations to the price determination.

Terms of reference of this report

The Commission is seeking stakeholder responses to three questions:

1. What approach should the Commission adopt to setting wholesale electricity purchase costs for standing contract pricing purposes and why should that approach be used?
2. Is the forward market for wholesale electricity in South Australia sufficiently liquid to provide reliable forecasts of the energy purchase costs of a prudent and efficient electricity retailer with the standing contract obligation?
3. If so, should the Commission change the WEC component of standing contract prices?

We have been asked to provide advice on this, with a particular focus on the first question.

Structure

The next section of this report analyses historic information on wholesale electricity prices in South Australia, and compares them to these prices in other parts of the National Electricity Market (NEM). The conclusions from this empirical analysis provides context to the last section which sets out our views on the use of futures contracts, Long Run Marginal Costs and spot prices in setting the wholesale energy component in the standing contract.

2 Wholesale electricity prices in South Australia compared to other NEM regions

This section examines wholesale electricity prices in South Australia, and compares them to these prices in other NEM regions. The analysis presented in this section suggests that prices in South Australia are significantly higher than they otherwise would have been, as a result of the exercise of market power. This conclusion potentially has important implications for the weight that might be placed on spot and contract prices, in the Commission's consideration of wholesale prices in standing contracts.

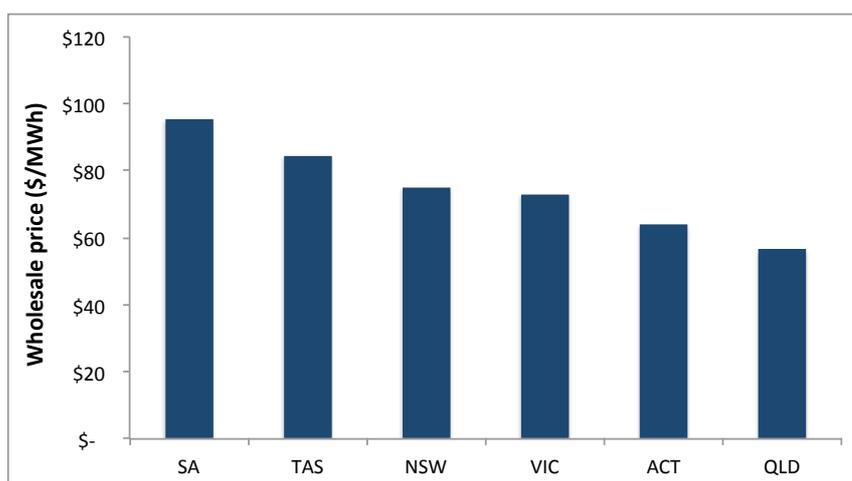
The sub-section examines the wholesale price component in South Australian standing contracts compared to those in other NEM regions. Then spot and contract prices in South Australia are explored. A final section draws out the main observations and conclusions to be drawn.

2.1 The wholesale price component of standing contracts

Figure 1 shows the wholesale energy prices¹ in standing contracts in the states and jurisdiction covered by the NEM. This is based on the AEMC's report "*Possible Future Retail Electricity Price Movements: 1 July 2011 to 30 June 2014*".

It shows that the wholesale price component in standing contracts is higher in South Australia than in other states and jurisdictions in the NEM. The difference is quite significant: the wholesale price component in South Australia (the highest) is more than 50% higher than in Queensland (the lowest). The data in this table for South Australia agrees with the data in the Commission's discussion document.²

Figure 1. Wholesale energy prices in standing contracts in the NEM to 30 June 2011



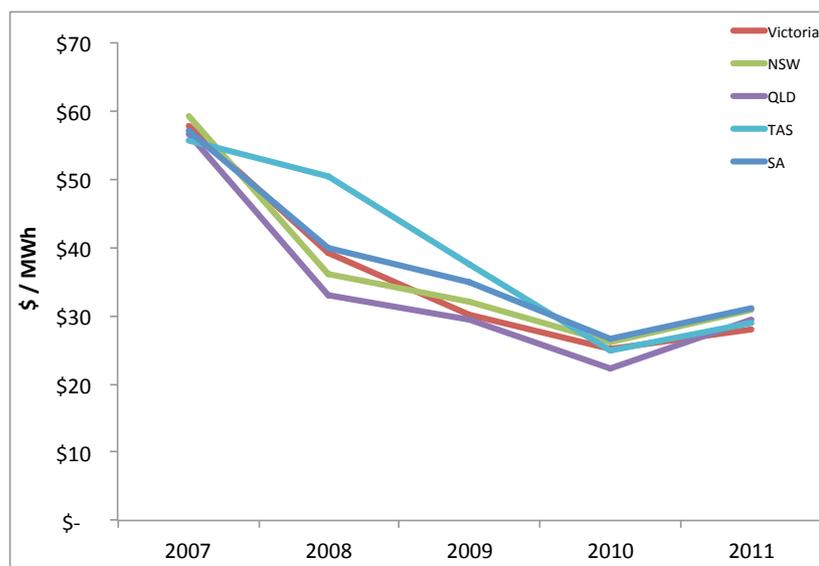
¹ "Wholesale" only (i.e. not including feed-in tariffs, LRET/RET, SRES or Retail elements.

² Long Run Marginal Cost of Generation only, from the Commission's Discussion Paper. It is notable also that the AEMC estimated RET and SRES prices to be significantly lower than Commission did (as reflected in Table 2 of the Commission's Discussion Paper).

2.2 Spot market prices

Figure 2 shows the average spot prices in the NEM since 2007, but excluding prices in the highest priced 72 settlement periods in each year. This covers 99.6% of the year. The graph shows that average annual prices in South Australia are comparable to those in the rest of the NEM. Over this six-year period, the average price in South Australia was \$37.9/MWh compared to \$36.9 / MWh for the NEM as a whole.

Figure 2. Average spot prices excluding settlement periods excluding 72 highest price settlement periods

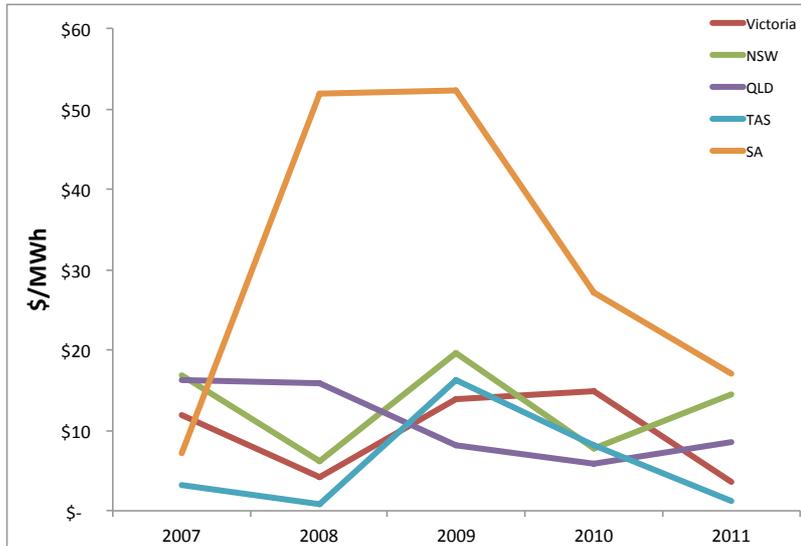


SOURCE: Data from NEM-Review™, CME analysis

While average prices for 99.6% of the year have been comparable, prices in the 72 highest priced settlement periods in South Australia have been much higher than the rest of the NEM. This has had a major impact on average annual spot prices in each region of the NEM, as shown in Figure 3. This shows the increase in the average annual spot prices, attributable to the prices in the top 72 settlement periods in each year.

The chart shows that in South Australia, the extreme prices in the highest 72 settlement periods have raised average prices by more than \$50/MWh in 2008 and 2009, and by around \$27 / MWh in 2010. This is remarkable, by Australian standards and also internationally.

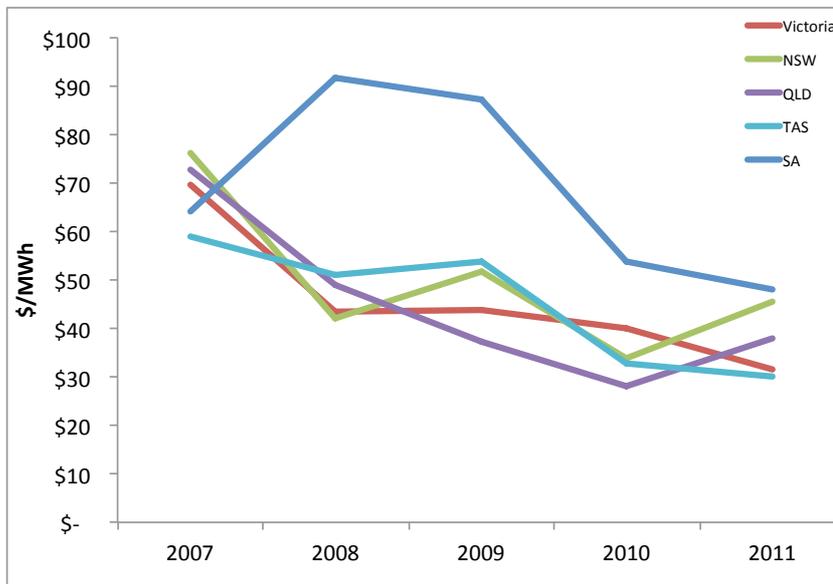
Figure 3. Increase in annual average spot prices attributable to prices in the top 72 settlement periods



SOURCE: Data from NEM-Review™, CME analysis

The annual average prices including the extremely high prices in the top 72 settlement periods are shown in Figure 4. Taking Figures 2 and 3 together it is clear that average annual spot prices in South Australia have been significantly higher than in the other NEM regions and that this is attributable to the extremely high prices in the top 72 settlement periods in South Australia, compared to the price levels in these extreme periods in other NEM regions. .

Figure 4. Demand-weighted average annual spot price



SOURCE: Data from NEM-Review™, CME analysis

There is evidence to suggest that the extreme prices in South Australia (and hence the higher average annual spot prices) reflect the exercise of market power, rather than scarcity in the South Australian power system. Others have analysed market power in South Australia with reference to some specific events and reached this

same conclusions for those specific events.³ The AER has alluded to the exercise of market power in South Australia on several occasions.

We have examined the data to assess this issue, and specifically to assess the extent to which the exercise of market power has affected prices. This evidence is presented below, drawing on material set out in greater detail in our recent report “Electricity Market Power in South Australia” for the Energy Users Association of Australia.

In a competitive market, generators will seek to maximise production at those times that market prices are higher than their production costs. If the evidence is that there is consistently a significant amount of “spare” capacity when prices are well above production costs then this must be because, by withholding capacity from the market (or equivalently only making it available to the market at much higher prices) those generators with spare capacity have been able to increase market prices.

For example if a generator withheld half its capacity and in so doing was able to raise the price it was paid, from its production costs of say \$50/ MWh to say \$10,000/ MWh, it would still earn 100 times as much revenue than if it made all of its capacity available to the market at its variable production costs.

“Spare capacity” for each generator in each settlement period (as we have defined it in this analysis) is the difference between that generator’s actual generation in that settlement period and 95% of its maximum annual generation. We have taken 95% (of its maximum) rather than 100% to allow for some reduction in generation capacity that may reasonably be expected from time to time to reflect capacity reductions attributable to ambient conditions (such as very high temperatures) which often coincide with very high demands.

In some settlement periods generators may be unable to produce at their full capacity despite very high spot prices, because there may be some genuine technical limitation limiting output. If the market is competitive, generators have an incentive to overcome such technical limitations so that they can maximise their profits.

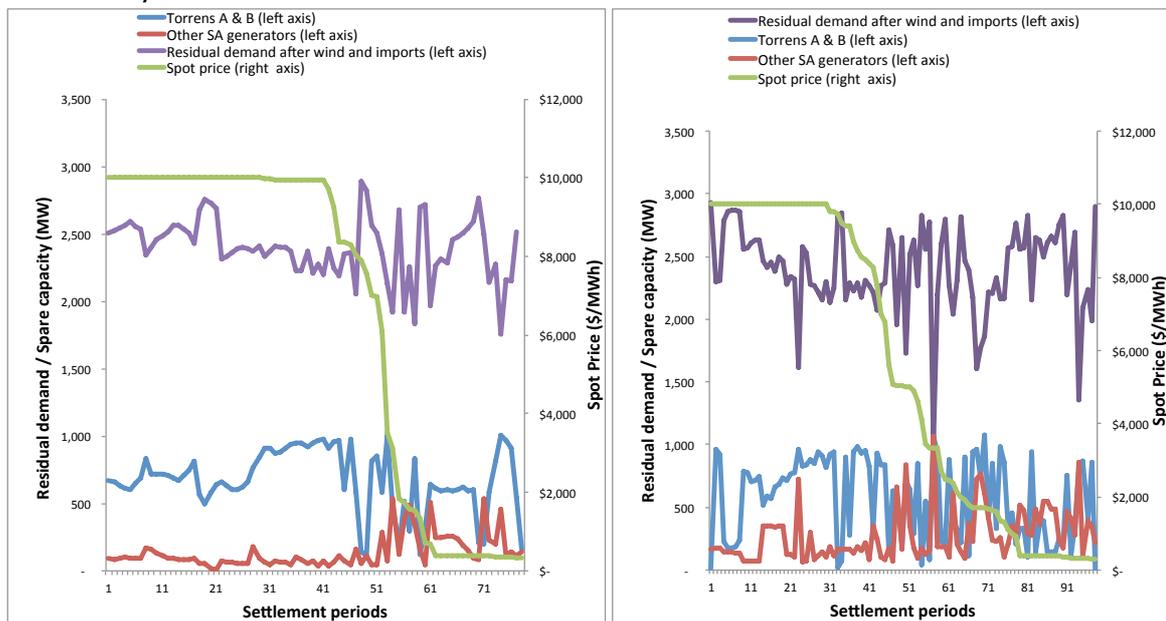
If the evidence is that generators are consistently dispatched below their full capacity when prices far exceed production costs, then it is possible to reasonably conclude that it is the exercise of market power, not technical constraints, that explain why output falls below the level expected in a competitive market.

Figure 5 presents an analysis of the “residual demand”, spot prices and generation production during the extreme price periods (when prices were above \$300 / MWh) in 2008 and 2009. “Residual demand” is defined to be the South Australian demand (in the NEM) less production from South Australian wind farms and (net) imports over the interconnectors to Victoria. This measure of demand shows how

³ See for example “THE THEORY AND PRACTICE OF THE EXERCISE OF MARKET POWER IN THE AUSTRALIAN NEM”, Darryl Biggar, June 2011.

much production would be needed from NEM-dispatched generation in each settlement period, to meet the residual demand in that settlement period.

Figure 5. Analysis of residual demand and spare generation capacity when prices were above \$300 / MWh in 2008 and 2009



SOURCE: Data from NEM-Review™, CME analysis

These figures contain a lot of information and so require some explanation. The right hand vertical axis is the spot electricity price (in \$ / MWh). The spot price (the green line) is mapped against this axis. In these charts, the spot price (and corresponding generation data) have been ordered from highest to lowest, and the cut-off in both charts is when spot prices equal or exceed \$300/MWh. So, the chart on the left only shows production and prices in the highest 80 settlement periods, while the chart on the right shows this for around 95 settlement periods. This is the number of settlement periods in each year in which prices exceeded the threshold of \$300/ MWh.

The data in purple is the residual demand that was met from NEM-dispatched generation in South Australia (excluding wind farms) for each settlement period. The data in blue and red is the spare capacity (as defined earlier) from Torrens Island Power Stations A and B (in blue) and all other South Australian NEM-dispatched non-wind generation (in red).

It can be seen in both charts, but particularly clearly in the left-hand chart, when electricity prices were at the Market Price Cap (\$10,000 / MWh) and the residual demand was high, the “Other SA generators” were in aggregate being dispatched at close to their full capacity - they had almost no spare capacity. They were maximising production to take advantage of the extremely high prices.

By contrast, the Torrens Island Power Stations had substantial excess capacity (at least 500 MW and up to 1000 MW in 2008) despite the fact that spot prices were at \$10,000 / MWh. The information in the two charts show that Torrens A and B

withheld 667 MW in 2008 and 655 MW in 2009 (on average) when half hourly spot prices were at the market price cap.

In other words what these charts show is that the spot market in South Australia has delivered extremely high prices despite the existence of substantial amounts of spare capacity. It follows that the extremely high prices are attributable, not to prices that reflect tight supply/demand balances, but to the exercise of market power.

The outcomes for 2008 and 2009 were replicated, although to a lesser extent, in 2010. In 2011 however the situation changed. This time Torrens A and B were producing at or near their maximum capacity, while the brown coal generators (Playford and Northern) withheld substantial amounts of capacity (on average 423 MW and a maximum of 440 MW) when the market price was near the market price cap.

We understand that the difference between the Torrens Island and Playford/Northern bidding patterns over the period from 2008 to 2011, reflected the levels of their hedge contracts. Torrens Island was, we understand, substantially uncontracted from 2008 to 2010, but substantially contracted from 2011, while the reverse is apparently the case for the Playford/Northern units. The exercise of market power by Torrens Island from 2008 to 2010, and the Playford and Northern units in 2011 therefore reflects the incentives that arise under their hedge contract positions.

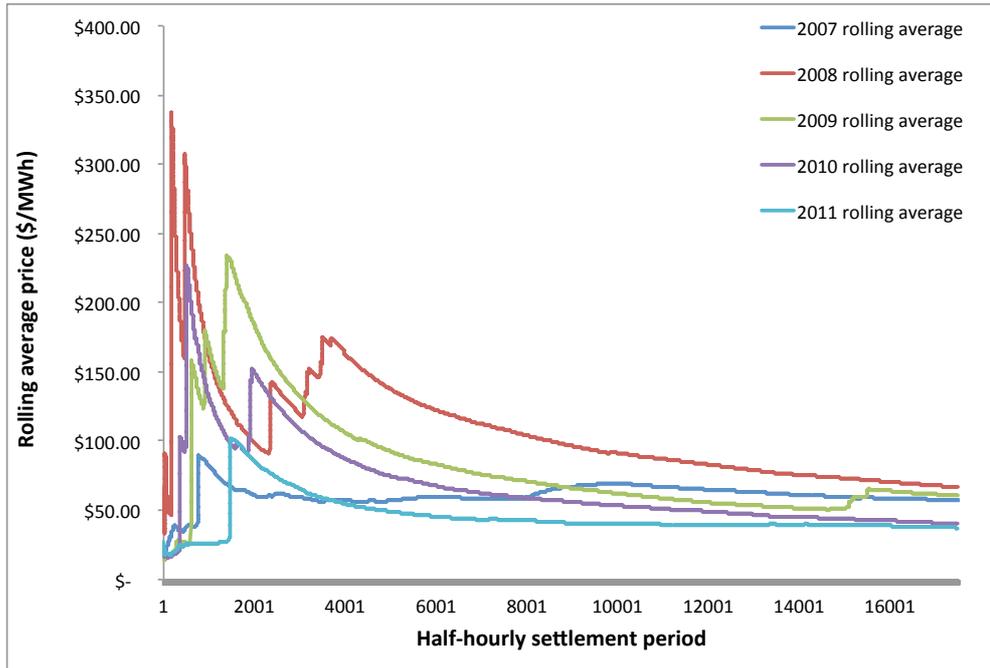
In summary, South Australia's higher than average demand-weighted spot prices (Figure 4) can be attributed to a small number of high priced events (Figure 3) and, in turn, these high priced events can be traced to periods not of scarcity of supply but of the economic withholding of capacity of un-hedged pivotal generators (Figure 5).

2.3 Contract market prices

The picture in the spot market seems fairly clear. To what extent has it been reflected in the contract market?

The rolling average annual spot prices show that the extreme volatility in prices (and hence increase in annual average prices) occurs predominantly during the first quarter of each year. This is shown in Figure 6.

Figure 6. Rolling average annual spot prices



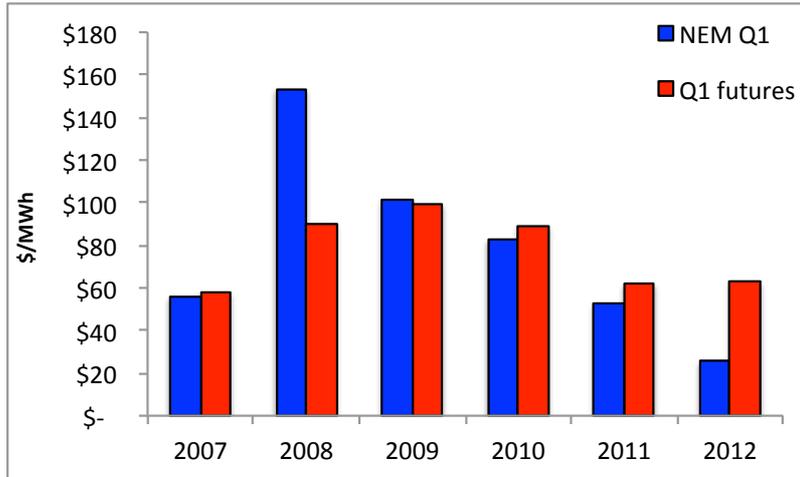
SOURCE: Data from NEM-Review™, CME analysis

The comparison of weighted average quarterly base load futures contract prices⁴ compared to the average quarterly spot price suggests that there has not been a significant difference between quarterly average spot prices and quarterly average contract prices for the second, third and fourth quarter. This stands to reason: spot prices have been quite predictable in these quarters and contract prices have been able to anticipate the average spot price accurately.

By comparison, spot prices in the first quarter of each year have been much less predictable, and so differences have arisen between contract prices for the first quarter of each year, and average spot prices in the first quarter. This is shown in Figure 7.

⁴ This is a contract for the purchase of 1 MW per hour for every hour in the quarter.

Figure 7. Average Q1 spot prices and weighted-average Q1 futures prices



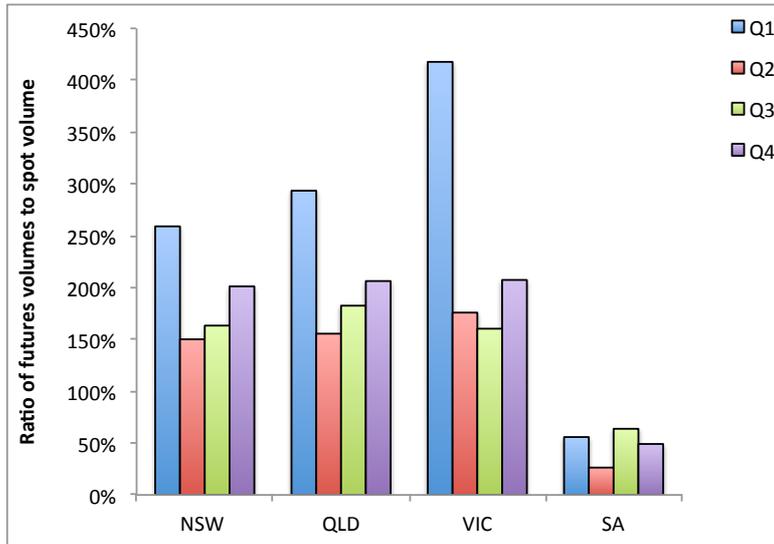
SOURCE: Data from NEM-Review™ and D-Cypha CME analysis

Figure 7 shows that in 2008 and 2012 there was a significant difference between the quarterly future and the average spot price. In 2008, generators would have been better off if they were uncontracted and in 2012 worse off, and vice-versa for retailers and end users. However, other than these years, the contract market (at least as measured by quarterly futures contracts) has “predicted” average spot prices reasonably accurately (the gap between quarterly futures prices and quarterly spot prices is small).

The contract market in South Australia is apparently significantly less liquid than the contract markets in other NEM regions. Figure 8 shows a comparison of the ratio of the volume of futures contracts to the energy transacted in the spot market in 2011.

As this chart shows, in SA in 2011 typically less than 50% of physical energy transacted in the spot market is hedged through futures contracts. By comparison, the ratio in other NEM regions is typically at least 150%. Further analysis (not shown) is that the ratio of Q1 futures contracts to Q1 spot electricity in South Australia reached a low of just 20% in South Australia in 2010, and a high of 85% in 2008.

Figure 8. Ratio of the volume of quarterly futures contracts to energy transacted in the spot market in each quarter in 2011



SOURCE: Data from NEM-Review™ and D-Cypha CME analysis

2.4 Summary of the main points

This section has covered a lot of empirical evidence quickly. The main points are as follows:

1. The allowance for the wholesale price of energy in (regulated) standing contracts is significantly higher in SA than in other regions of the NEM.
2. Spot prices for 99.6% of the year (i.e. excluding the 72 highest priced settlement periods) in South Australia have been comparable to prices in other NEM regions since 2007.
3. The extraordinarily high prices that have been seen in the highest settlement periods in South Australia from 2008 to 2011, do not reflect scarcity in the market. Rather they appear to be the outcome of the exercise of market power by the Torrens Island Power Stations (in 2008, 2009 and 2010) and by the Northern and Playford power stations in 2011. It is reasonable to expect that average annual spot prices would have been significantly lower if such market power had not been exercised.
4. Spot prices have been reasonably well predicted in the futures market at least as measured by quarterly futures contracts particularly in the second, third and fourth quarters of each year.
5. Prices in quarterly futures contract have lagged changes in the spot market. For example, the significant rise in spot prices in 2008 was not predicted and likewise the collapse in 2012 was not accurately predicted. In both cases the futures market failed to anticipate the step change in the spot markets.
6. The volume of contract market trades (of quarterly futures contracts) is significantly lower in South Australia compared to other NEM regions. The volume of trades in annual futures contracts (or indeed in the variety of

other futures contracts) or of forward contracts is not publicly available, although some, survey data is available from proprietary sources.

3 Approaches to setting wholesale energy components in standing contracts

The previous section has analysed empirical data on the spot and contract market to inform consideration of different approaches to setting the wholesale energy component in the standing contract for electricity provided by AGL to small consumers in South Australia. The section briefly considers, in order, the use of forward and futures contract prices, the use of long run marginal cost methodologies and finally presents some initial thoughts on the use of spot prices.

3.1 Use of forward and futures contract prices

Firstly, to the extent that forward and futures contracts reflect expectations of the exercise of market power in the spot market, the use of these contracts in setting retail prices will mean that the impact of wholesale market power will be passed through to consumers in the standing contracts. This is a fundamental consideration, irrespective of other features such as contract market liquidity, that should be considered in deciding what weight should be placed on contract prices.

Second, the futures market in South Australia appears to be less liquid than elsewhere in the NEM. The liquidity of the futures market for contracts (quarterly or annual) more than a year ahead is very thin typically with negligible trading volume. This illiquidity suggests that the use of futures contract prices to set three-year price paths is inappropriate. Assuming the “law of one price” applies in contracts, we would expect that there would not be any enduring or systematic difference in similarly specified contracts in the futures and forward markets.

Third, the futures market has revealed a lag relative to the spot market. For example for 2012, contract prices were well above spot prices, just as in 2008 they were well below. In both cases, the spot market in 2008 and 2012 took a decisively different turn from the years before. The contract market in both cases failed to anticipate this. As such, the use of contract prices can result in significantly different prices than might occur if standing contracts are set relative to spot prices. It might be argued that “positive” differences in one year might be off-set by “negative” differences in others. This may or may not be the case (the history over the last six years suggests that this is roughly the case). However we be careful on relying on this as a justification for the exclusive reliance on contract prices.

Finally, it merits further consideration whether contract prices are relevant at all in setting the standing contract for supply by AGL. AGL’s interest in wind farms, cogeneration and fossil fuel generators in South Australia is likely to provide sufficient generation to meet the needs of their South Australian electricity consumers in aggregate over the year. Their controllable generation capacity is likely to exceed the peak demand of their South Australian customer base. As such, AGL is substantially “vertically-integrated” in retailing and generation in South

Australia and hence hedged against spot prices (after adjustment for transmission losses, its retail business will pay the same spot price for electricity as its generation business receives). To the extent that AGL chooses to enter into future or forward contracts, this is a matter for AGL reflecting their wholesale price risk management strategy, or perhaps to fix prices for the procurement of energy from the spot market when spot prices are below their production costs.

Therefore contract prices are, arguably, of secondary importance in the determination of the price of wholesale energy in the standing contract. This suggests that the relevant market in consideration of the wholesale price of electricity supplied by AGL in South Australia, is the spot market, not the contract market.

3.2 Use of Long Run Marginal Cost methodologies

In the past ESCosSA has generally had some regard to LRMC methodologies in setting standing contracts, although in its most recent determination it has relied solely on it to determine wholesale energy costs. Other jurisdictional regulators have also had reference to, or relied, on LRMC methodologies in their calculation of regulated standing contracts.

We suggest that the use of LRMC approaches to set the wholesale element of standing contracts has little to commend it in general, and is inconsistent with the determination of prices in the NEM.

The deregulation of electricity supply has delivered a market for the determination of production, prices and investment. In the NEM these prices (and consequential production) is determined in 5 minute auctions. In a market, the regulator's or market participants' views of the long run marginal costs are irrelevant.

The use of LRMC by the Commission sets the market aside in the calculation of standard contracts. This is problematic for many reasons. If the Commission is not confident in the market in the determination of standing contracts, why is it happy that the market should set prices for other customers? Furthermore, the calculation of LRMC is dependent on many assumptions, and a wide range of LRMC estimates are plausible.

The counter-argument is that it is not possible to measure, with confidence, what prices the market is likely to deliver, and hence it is necessary, reluctantly, to fall back on LRMC. We recognise the measurement challenges in the use of market price, but suggest that solutions other than LRMC should be explored and these possibilities exhausted before relying on LRMC.

3.3 Use of spot prices

As noted earlier, AGL is likely to have sufficient capacity in South Australia to substantially meet the demand of its South Australian electricity consumers. As such it is hedged against pool prices through its vertical integration. AGL may choose to enter into contracts to fix the price it receives for surplus production

beyond the needs of its consumers (or for purchases it might make when it would choose to buy production from other generators rather than use its own resources). Unlike market participants that do not have sufficient generation to meet their retail commitments, AGL does not have to rely on contract markets to manage its retail price risks. As such we suggest that it merits further exploration whether the appropriate reference price market for AGL's standing contract sales in South Australia is the spot market (i.e. the NEM) rather than the contract market.

One way to use spot prices in the wholesale component of standing contract would be set an ex-ante expected average spot price (adjusted for the profile of demand of standing customers), and then to true it up the following year once actuals are known.

For example, it might be calculated that the expected profile-adjusted average wholesale price for standing contracts in 2012 would be, say, \$50/MWh. The actual price for 2012, which would be known with certainty in 2013, would be say \$40/MWh. The \$10/MWh difference would then be taken into account in setting the standing contracts in 2013.

As with consideration of contract prices, it merits consideration when correcting the ex-ante prices estimates for actual spot prices, whether spot prices should simply be accepted without variation or whether some adjustment should be made for the exercise of market power, to the extent that it is accepted that spot prices have been affected by this.

Of course there any many other factors that would need to be considered in evaluating this approach (not least possible policy objectives to increase non-AGL retail market share of small customers in South Australia). We commend this approach to further evaluation.