AEMC Review

South Australia Energy Retail Price Caps

Is There Effective Retail Competition?

A submission

From

Uniting*Care* Wesley Adelaide

Prepared with major contribution from

Headberry Partners and Bob Lim & Co

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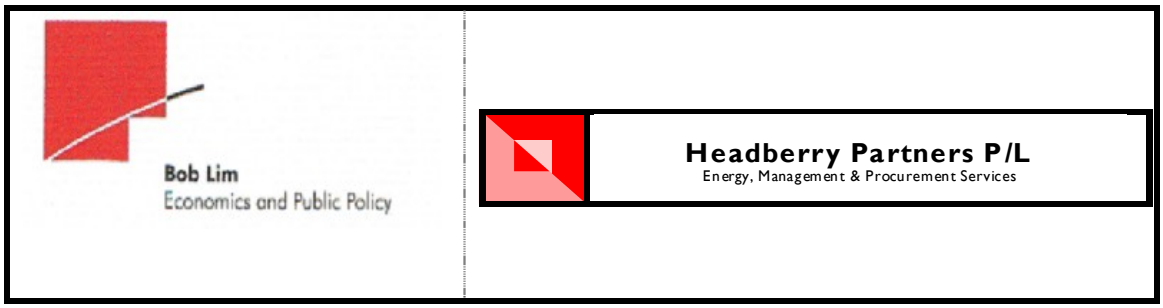

"The new breeze of competition which has blown such high hopes, will gradually give way to the icy winds of reality. And there will be the need for compromise between pure principles and the vulgar facts of life.

Time has come for realism.

Competition? Agreed. But only up to the stage where, whatever we do, it will start costing more money than it will bring in."

Marcel Boiteux
Eminent French economist and Honorary Chairman of EDF,
CIGRE ELECTRA, December 2004.

It was his work on "Peak Load Pricing" in 1949 that marked the first serious application of modern economic theory to power systems[1]

[1] Thanks are due to the late Dr R R Booth for bringing to the notice of the authors, this very appropriate quotation

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Executive Summary

Uniting*Care* Wesley Adelaide (UCW), welcomes the opportunity to present its views to the Australian Energy Market Commission (AEMC) on its review of Effective Competition in the South Australian energy retail market.

Reflecting the limited time available to UCW, this submission, which has largely been prepared by its consultants, focuses on the electricity market, on the instruction and direction of UCW. However, the views about the electricity market contained in this submission reflect a central assessment that there is no effective competition in the electricity market at the wholesale level and that this, in turn, supports the view there can be no effective retail competition. As a fundamental premise, efficient markets exhibit efficient pricing as an outcome. Analysis of the SA electricity market shows that at the wholesale level there is inefficient pricing, reflecting the absence of an economically efficient wholesale market.

The wholesale gas supply market is even less competitive than the electricity market, as there is only one supply arrangement for independent retailers to source gas from – the Moomba-Adelaide pipeline. All capacity on the SEAGas pipeline is fully contracted to Origin Energy, International Power and AGL, and gas from the Otway Basin is lower cost than gas from Central Australia[2].

This submission posits that the AEMC analytical framework is insufficient and that the most important analytical strand – effective competition at the wholesale electricity market – must be included as part of the AEMC review. This submission focuses on this analytical stand, although section 7 addresses some of the issues associated with the three analytical strands identified in the AEMC Issues Paper.

If competition in the wholesale electricity market is assessed to be ineffective then the scope for retail competition is limited or, at best, controlled by a dominant retailer vertically integrated to a dominant producer.

The electricity wholesale market structure in SA is assessed in this submission to be not effectively competitive as analysis shows that the market is exposed to the aggressive exercise of market power by a vertically integrated dominant producer and dominant retailer, with this situation expected to continue into the future. As a result, there is limited competition at the retail contract market segment, and already large industrial customers are seeing contract prices escalating as a result of the lessening of competition at both retail and wholesale levels. Even large industrial customers have been unable to exercise any countervailing power. The

[2] This is why SEAGas pipeline was developed - to supply gas to the power stations in SA from the lower cost gas fields of Otway Basin in order for them to remain competitive

lack of competition at the wholesale level will lead to flow-on effects on the regulated retail market.

Competition at the retail level for residential (including rural and disadvantaged customers) and small business consumers is sparse, and at best very limited, with retail margins being less than 5% of the landed cost of electricity – a very small margin bandwidth for retailers to compete within! Price competition, in any case, is notably absent, with non-price factors being dominant.

The structure of the SA electricity market is expected to continue to deter new entrants both at the generation and retail level. Faced with a dominant generator and dominant retailer, with 40% and 70% of the total market respectively, potential new generator and retailer entrants will face increased market risk. A potential retailer unable to secure hedging contracts with a generator or even competitively-priced hedging contracts will be exposed to higher market risks or increased costs relative to the dominant vertically integrated 'gentailer'. A potential generator will be exposed to the major risks of a highly volatile wholesale market, as the dominant generator can easily set wholesale prices, up or down.

In a report to the AER, the Major Energy Users Inc points out that the dominant "gentailer" in SA (AGL) has attempted, with significant success, to set both a floor price and a very high peak price in the SA spot market. The outcome of a rising spot market, is a rising contract market (which large industrial consumers are already experiencing) and ultimately this will flow onto the small user retail market. If the dominant "gentailer" in SA can effectively set the spot market prices, then effective retail competition in SA is largely minimal or non-existent.

Removing the retail price cap will, because of the lack of effective competition at the wholesale level, result in unnecessarily higher and rising prices for residential and small business customers. Due to the lower income levels of disadvantaged and underprivileged consumers, rises in the electricity market will have a greater financial impact on them than on the wider community.

Competition analysis limited to just an assessment of the retail sector is insufficient.

1. Introduction

Who We Are

UnitingCare Wesley was formerly the Adelaide Central Mission and is a community service organisation with over 100 years experience in providing services to low income and disadvantaged people in South Australia. It is an independently incorporated agency of the Uniting Church. We currently provide in excess of 50 services, including Lifeline and Goodwill.

UnitingCare Wesley Adelaide has, for many years, provided services to assist people who are struggling financially and has been at the forefront of supporting financial (and other counselling) in South Australia. The following summarises the services that have helped inform our interest in energy markets

Our financial Counselling is available to anyone, although the service focuses mainly upon low income and disadvantaged people. The service conducts an average of 68 interviews each month. The work of Financial Counselling is vast, covering budgeting advice, advocacy and community education.
Counsellors support clients through the trauma of bankruptcy, and intervene with creditors to negotiate satisfactory arrangements.

The Central Community Legal Service is run by UnitingCare Wesley and is a community organisation set up to provide legal information, advice, referral and assistance. Assistance is provided by qualified legal practitioners. Advice is offered in areas including consumer issues, debt and tenancy.

The Low Income Support Program also assists agencies and community groups to work with local people to understand the impact and consequences of poverty on people and to identify strategies and resources which can help manage or alleviate the effect of poverty on individuals and families.

Uniting*Care* Wesley Adelaide was a provider of “Energy Friends”, an energy audit / advice service for low income households. Unfortunately the SA Government cut funding for this service during 2007.

Uniting*Care* Wesley works closely with the SA Council of Social Service, the peak body for non-government community service organisations in SA (which is not funded for any work on utilities / essential services), on energy policy issues, where resourcing permits. Uniting*Care* Wesley Adelaide employee, Mark Henley jointly represents this organisation and SACOSS on the ESCoSA Community Advisory Council and on the national small energy consumers Roundtable. He was also a member of the ERIG Transmission working group.

Energy Costs and Low Income Households

Uniting*Care* Wesley Adelaide is concerned that a premature removal of energy (electricity and gas) retail price caps could lead to many South Australian (SA) energy consumers (residential and small businesses) paying higher costs for the supply of the essential services of electricity (and also of gas). UCW is also concerned that small consumers in rural areas, outer suburban areas (with low SEIFA index) and low income and disadvantaged households (specifically households including aged, carer and physical disabled members) are highly likely to suffer increasing financial and other hardships with the removal of the protections, including those provided by appropriately regulated retail energy price caps.

Uniting*Care* Wesley Adelaide also believes that this review needs to be cognisant of the current situation for low and modest income households in South Australia. This matter is explored in Appendix 1.

We also highlight the following findings from a survey of financial counselling clients conducted during July / August 2004, soon after the introduction of FRC for electricity in the SA market:

- 83% reported that high electricity prices are having an adverse impact on their finances
- 77% of those surveyed had electricity bills that are considered to be low, that is less than $350 a quarter
- in response to the question “what of the following items have you reduce spending on due to electricity Price increases?” - responses included:

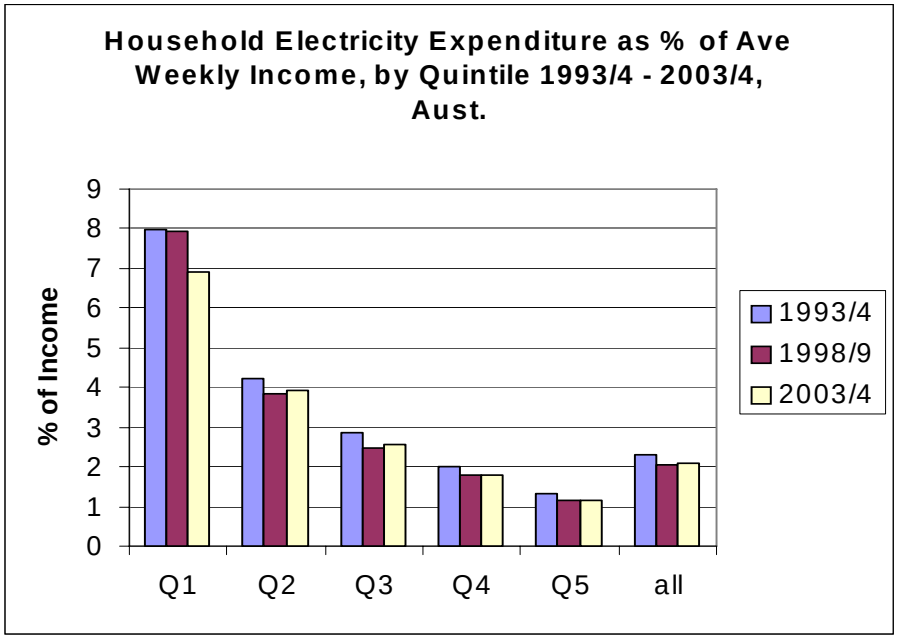
Food	50%
Clothing	87%
Holidays	83%
Movies	80%
Sport and culture	80%
Telephone	53%

This survey reinforced observations from welfare and community service organisations that rising energy costs and rising utility charges in general were having a significant impact on low income and vulnerable households.

Uniting*Care* Wesley stated at the time that it believed that “before further moves are made to change energy markets, there needs to be much better understanding of the impacts of the significant recent changes that have been made to the structure of energy markets. For example policymakers and the broader community need a much better understanding of fuel driven to poverty.”

A brief discussion of impacts of the introduction of FRC in SA is given in appendix 2

UCW has observed that lower income energy users suffer more, on a proportionate basis, from step rises in energy costs, because a higher proportion of income is devoted to energy use, as these consumers must have access to these essential services. This is illustrated by the following graph showing household electricity spending as a percentage of average weekly household income, by income quintile, for Australia. We do not have this data for South Australia, where would anticipate a greater disparity because of lower household incomes in SA than other mainland states. The critical observation is that while lower income households generally use less electricity than higher income households, they spend a much higher proportion of their household income on electricity. Therefore, impacts on lower income households need to be carefully considered.



Price points are critical for these consumers, as distinct from service quality and reliability at the margin, and it should be noted that retailers have no impact on the reliability of energy supplies.

UnitingCare Wesley is supportive of the "Charter of Principles for Energy Supply" that has been developed by the National Consumers Roundtable on Energy. This Charter is reproduced as appendix 3. We urge the AEMC to take this Charter into account while conducting this review.

<u>Price Competition</u>

UCW has observed that there appears to be a low level of price competition (as distinct from "churn") in the retailing of energy supplies, and has commissioned

Headberry Partners and Bob Lim & Co to assist it in identifying whether the reasons for the lack of competition between energy retailers is due to any constraint caused by the presence of a retail price cap (as may be alleged by retailers) or whether there are deeper underlying reasons for this lack of competition.

This submission posits that dubious marketing and sales practices, as have been observed by energy ombudsman schemes, are a result of retailers not having sufficient margins stemming from the lack of effective competition in the large wholesale element of their price build up, and have to largely operate within similar but small profit margin bands. One likely outcome of removing price caps is that retailers will maintain the same dubious marketing practices but increase prices for the unwary and disadvantaged, similar to what is regularly seen in the mobile telephony market.

Retailers supporting the removal of the price cap may well allege that a price cap prevents them from providing more competitive offerings. This submission is of the view that this observation is quite incongruous. Even if a price cap is present, there is nothing preventing a retailer from offering lower prices if it is able to secure wholesale energy on a more competitive basis than its rivals, and/or if it is willing to reduce its retail margin. If retailers are already providing some competition at the retail level under a price cap regime (as the AEMC averred in its report on Victorian energy retailing), then there is no reason to remove the price cap, other than for theoretical and academic satisfaction.

What is of fundamental concern to rural and disadvantaged consumers is that removal of the price cap will expose them to prices higher than the price cap as they are not as attractive to retailers as other customer loads because of lower population densities and/or higher unit costs of supply.

It has been alleged by retailers that removal of a price cap will result in a more competitive market, and that therefore lower prices will result than if a retail price cap is in place – this is simplistic view as the key driver for achieving this outcome is the extent of effective competition at the wholesale level. But putting that aside for the time being, implicit in this assessment is that some consumers will benefit and others will pay higher prices.

The fact that there is already observed limited retail competition under a price cap regime, tends to indicate that a retail price cap does not severely militate against competition, and that its removal will have at best a marginal benefit to the market as a whole, but will cause the greatest pain to those consumers least able to manage its removal.

2. The AEMC approach to retail contestability

The AEMC has been tasked with assessing whether the gas and electricity retail markets in South Australia are sufficiently competitive to allow the retail price caps currently in place, to be removed.

The AEMC considers that its review must focus on the future in the energy markets and the degree of competitiveness that might apply, rather than what has occurred (page 8):

> "In evaluating the effectiveness of competition, it is important to take a forward rather than backward looking approach. Clearly, regard must be had to evidence of what has actually been happening in a market but the most important question is: what is likely to happen going forward? The past is only relevant to the extent that it is a guide to the future. It is in the future that any regulatory changes consequent to the Commission's findings will be implemented. It is therefore necessary (and appropriate) to consider the likely state of competition with and without such regulation and whether past trends are likely to continue."

Whilst this is a legitimate statement, it does not address the basic issue that it is only by assessing current and past performance that the future structure of the market can be assessed as being competitive or not. If the underlying market structure shows deeply entrenched uncompetitive aspects, then irrespective of what assessments are made (eg based on promises by retailers) that might imply that the future might be more competitive, there can be no certainty that this will occur – in fact the reverse is true, if the underlying market structure is uncompetitive and likely to remain so, then future arrangements are, perforce, likely to be uncompetitive.

However, it must be accepted that any changes made to the historical structure that might affect the balance that did apply in the past, must also be taken into consideration. In this regard, it must be pointed out that the purchase of the dominant generator in SA (Torrens Island Power station) by the dominant retailer in SA (AGL Retail) which came about in early 2007, must be considered in detail in any assessment of retail competition in the SA region.

Thus the focus of attention must be on whether the underlying market structure is competitive, rather than only assessing the competitiveness (or otherwise) of the retail function in isolation.

The outcome of such analysis can be stated quite succinctly – an economically efficient market will deliver economically efficient prices, and to do so the economically efficient market must be economically efficient at all levels. Yet if

there is one element of the market that is not economically efficient, then the market as a whole will not be economically efficient. If the inefficiency relates to a small element of the market cost structure, then there may be grounds to assume this inefficiency will have minimal impact on the market as a whole. However, if the inefficiency relates to a large element, then the market as a whole must be considered inefficient.

This submission therefore looks at the effectiveness of retail competition in conjunction with the effectiveness of competition in the underlying market structure.

The AEMC notes that there are three analytical strands that need to be addressed (page 8):

- the ease of entry into energy retailing in South Australia;
- the nature and extent of rivalrous behaviour between retailers; and
- customer behaviour, attitudes and information requirements in relation to the purchase of energy products and services.

This submission considers that addressing just these three strands is insufficient, and that a fourth analytical strand must be included in the analytical framework.

In an electricity and gas market, a retailer must either provide its own energy (by being a generator or a gas field producer) or to have ready access to multiple and competing supply providers so that the optimum procurement strategy for the energy can be developed by the retailer to match the usage profile of its customers. This market for sourcing the energy by retailers is referred to as the "wholesale market", and this covers self supply (eg self generation) and supply procured from third parties (eg electricity spot market or "pool")

If the retailer identifies that there is no competition at the wholesale level, then it has two options – to exit the market or to provide its own product. The costs of providing its own product creates an effective barrier to entry due to the retailer having to purchase its own generation or gas supply, and in the markets for both gas and electricity, this barrier constitutes a very high cost. Thus for the purposes of assessing retail competitiveness, it must be assumed that there is a wholesale market from which retailers can freely purchase energy supplies for the purposes of aggregation and on-sale. If a retailer is to be competitive, then this wholesale market must be competitive. If the wholesale market is not competitive (i.e. access to wholesale energy by a retailer is not at competitive prices) the scope for retail competition will, perforce, be limited or will be controlled by a dominant retailer vertically integrated with a dominant producer, as is currently the case in SA and will also apply as we move into the future.

The AEMC Issues paper in part addresses this issue as follows (page 12):

> "Barriers to entry, expansion or exit in energy retailing in South Australia may take a variety of forms. A retailer may face a barrier to entry if it cannot secure access to wholesale energy supplies at prices that enable it to compete profitably with existing market participants, or if there are insufficient financial contracts available to allow the retailer to mitigate its price and volume risks. In the case of gas, retailers may require access to smaller, additional supplies of gas – "swing gas" – to balance discrepancies between system injections and withdrawals. Questions of access to wholesale energy and risk mitigation tools may also affect existing retailers seeking to expand their energy retail businesses."

However, having access to the wholesale market does not necessarily imply there is effective retail competition, for if the wholesale market is not competitive then the retailers have limited scope to provide effective competitive retail offerings. This view is supported by the observations made by NERA to ESCoSA[3] on a lack of competition in the SA wholesale gas market, even though there is access to gas by retailers, the limited competition in its supply reduces the effective competition amongst retailers.

The volatility of the SA electricity wholesale market must also be considered. SA in the summer of 2008 has exhibited the greatest volatility in the National Electricity Market since it began. It is axiomatic that the higher the volatility of the market, the higher the risk premiums that retailers have to bear to obtain financial hedges. In such a market situation, retailers that are not integrated with generators are at a significant cost disadvantage, relative to a vertically-integrated "gentailer".

Thus a fourth analytical strand must be added to the three nominated by the AEMC – is there a viable, effective and competitive wholesale market from which retailers can freely source their energy supplies?

2.1 Observations from the Victorian Review

When undertaking the equivalent review of retail contestability in Victoria, the AEMC provided documentation for Interested Parties to contribute to its review. The Issues Paper on the topic provided a rationalist economic view of the fundamentals of the Victorian energy market and implicit in the Issues Paper was a view that there was a need to remove the retail price caps as these provided an impediment to rationalizing the market.

[3] NERA, Review of the Effectiveness of Energy Retail Competition in South Australia – Phase 2 Report for ESCOSA, June 2007.

It has been observed that an intriguing dichotomy of views was provided to the AEMC to this Issues Paper. The energy supply side sector was strongly in favour of removing the price caps, but the demand side (comprising representations from groups supporting disadvantaged consumers and residential tenants, were of the view that there was not a strong case for change and that based on their own investigations, the AEMC needed to carry out considerably more analysis and collect more data before any decision could be made to remove the price caps.

Of singular interest was the strongly held view of consumers that **the existence of the price cap provided both a sound basis for the retailers to offer competitive offers ("the discount") and a valid protection for consumers that there was an upper limit that consumers could validly compare the offerings made by retailers.** The clear implication of the consumers' views was that in the absence of such a price cap, there was such a large information asymmetry (in favour of the retailer) and that a valid assessment of any offer by a consumer was very difficult. Such a valid assessment by a consumer was made even more difficult as the research conducted by the consumer groups indicated that all too frequently the information provided by the retailer's representative was confused, inaccurate and even misleading. The research provided by EWOV to AEMC supported this view based on its exposure to many complaints that it had received.

Before issuing its first report recommending the removal of the price caps, the AEMC commissioned a consultant (The Wallis Consulting Group) to carry out a survey of 1000 residential consumers and 500 small business consumers regarding their experiences in the energy retail market. Wallis reported[4] that, overall, consumers are more aware than three years previously regarding the energy market and that moving between retailers was possible. The overwhelming reason for a consumer to change from their current provider was driven by cost. Wallis made an interesting observation (page vi):

> "There is significant evidence to suggest that activity in the market is being stimulated by retailer action through face to face contact and telemarketing activities. Customers themselves are no more motivated now than three years ago to take action of their own accord. Thus churn in the market would seem to relate to the efforts of retailers rather than the interest of customers themselves."

This seems to indicate that the whole process of retailer churn is being driven by retailers rather than being initiated by consumers. If this is the

[4] Wallis Consulting Group, Review of competition in the gas and electricity retail markets, Consumer research report, *August 2007*

case then there seems to be a disconnect between the drivers of change, when consumers (the group on whose behalf the whole competitive issue is being driven) are relatively content with the status quo, and fearful of the change being proposed by the removal of the price cap.

Notwithstanding these widely held and well articulated consumer reservations, the AEMC issued its first final report, recommending that the price caps be removed. As before, the tenor of submissions followed the first draft report of the AEMC, with the usual lines being drawn with retailers being supportive and consumers voicing concerns, including the lack of rigour used in the survey work undertaken by AEMC, and the conclusion drawn from survey work.

PIAC in its submission[5] on the first draft report sums up consumers' view in a very apposite way (page 3):

> "Even on [the] narrow economic terms [of reference given the AEMC, the report] focuses on the costs and benefits for industry much more than for consumers. It therefore does not provide a balanced, comprehensive and long range assessment of the effectiveness of competition in the Victorian energy market."

One prevailing and consistent view put by consumer respondents to the first draft report was that the AEMC had failed to address the very valid concerns raised in their responses to the Issues Paper.

As St Vincent de Paul Society put it in their response[6] noting that the AEMC considered that a 60% take up of offers was an adequate demonstration of a competitive market (page 3):

> "When this expectation failure rate (between 18% - 24% of the total market) is considered in conjunction with those that have not actively participated in the market (40%) an overall market performance measure can be ascertained. Such a market performance measure indicates that over 50% (58-64%) of customers in the Victorian energy market believe it has either failed their expectations or they are not actively participating."

Yet despite this very real and appropriate observation, the AEMC determined that, overall, there is effective retail competition in Victoria for both gas and electricity. In reaching this conclusion the AEMC appeared to have effectively

[5] PIAC, AEMC Review of the Effectiveness of Competition in Electricity and Gas Retail Markets in Victoria, 9 November 2007
[6] SvdP AEMC Review of the effectiveness of competition in gas and electricity retail markets, November 2007

ignored the views of consumers – the very people who have direct dealings with, and live with the results of, the marketing undertaken by the retailers.

In a letter to the AEMC SA Minister for Energy Conlon[7] comments (to a degree echoing the sentiments of consumers to the same report) that the views of consumers appeared to have been given little weight in the Victorian review:

> Whilst the South Australian Government looks forward to effectively competitive energy markets occurring around Australia, it is important that the evidence be unambiguous that such markets exist, rather than providing further evidence that markets are continuing to develop.

But of greatest concern was that the AEMC appeared to have determined that there is effective retail competition without examining the fundamentals of competitive environment in the supply chain, or whether effective retail competition can exist in a market where wholesale competition is minimal, or even not present.

It is the view of this submission that an essential step in assessing effective retail competition must assess the underlying elements that comprise what a retailer is able to offer. Without assessing this, and the operation of the wholesale market providing the energy, the AEMC cannot realistically determine whether there is effective retail competition or not. The absence of any assessment of this element of the retailer business and the ability of a retailer to compete, will result in any AEMC review extremely flawed, in respect of its entire process, and the fundamentals of business.

Against the above background, the AEMC is urged to avoid the perceptions held by consumer groups with respect to its responses to consumers' viewpoints, by ensuring that in the SA review "the evidence be unambiguous", and that its analytical framework for conducting the review is rigorous.

2.2 The AEMC Process for the SA review

Analysis of the AEMC Issues Paper which outlines its approach and poses the questions, again demonstrates the essential flaw of excluding analysis of the wholesale market. There is no way that the AEMC can identify that there is competitive retailing of energy in SA without assessing the fundamental elements comprising the individual elements that comprise the final offering of a retailer to a consumer.

The AEMC Issues Paper provides no indication as to whether it intends to seek input from those entities who are already exposed to the "so-called" competitive

[7] Letter to AEMC dated 5 November

retail market, such as those consuming >160 MWh of electricity pa. Advice that the authors have access to, indicates that there is very limited retail competition in SA for larger users, and if this is so, it undermines any view that retail competition exists for small users. There is increased evidence that large industrial users have become price takers, as they have experienced first hand that they have relatively little or no countervailing power in the SA market. The reasons for this actual lack of retail competition seen by larger consumers are more fully developed later in this submission.

Whilst the bulk of this submission addresses the electricity market, it should be noted that the SA gas market also suffers many of the same issues of lack of competition in the wholesale gas market. As SA Minister for Energy Conlon commented in response[8] to the first draft report on Victorian competition:

> There is also an issue as to the extent that a call can be made at a point in time on the degree of competitive effectiveness which relies in part on an expectation of future developments. For example, the AEMC's view on the degree of gas retail market competitive effectiveness appears to rely in part on the expectation that access to wholesale gas products will continue to improve.

That the Minister has identified that competitiveness at the wholesale level and access to it on competitive commercial terms is an integral part of any assessment of retail competition supports a key contention of this submission that the AEMC will fail consumers if it does not seek to address this very basic element of retail competition.

NERA also considers that the wholesale market must be reviewed as a requisite for assessment of retail competitiveness, and states in its report[9] to the AEMC (pages 100,101):

> "Effective retail competition requires electricity retailers, and particularly new entrants, to have access to wholesale electricity markets and subsequent transmission and distribution services, to allow them to manage retail customer demand. Even where retailers own interests in generation, the nature of the wholesale market and the operation of the electricity system as a network mean that a retailer's load may often not be coincident with its own generation. The wholesale electricity market provides retailers the opportunity to manage demand and supply to meet customers' needs."

It is the expectation of SA consumers that the AEMC will, as a matter of rigour, carry out a detailed assessment of the effectiveness of wholesale competition in

[8] Op cit
[9] NERA report for AEMC, The Wholesale Electricity Market in Australia March 2008

the SA energy retail review. Without such an assessment, it must be considered that the analytical framework adopted for this review on the effectiveness of retail competition, is fundamentally flawed and any conclusions be regarded as dubious.

3. The context – SA retail prices

The Council of Australian Governments commissioned a review of the energy markets in Australia in 2006/07. In some ways this reflected a similar report earlier in 2002 under the chairmanship of Warwick Parer (the "Parer report"). The recent review by the Energy Reform Implementation Group (ERIG) addressed the issue of competition and the impact of the energy reforms that had been undertaken since the mid 1990s.

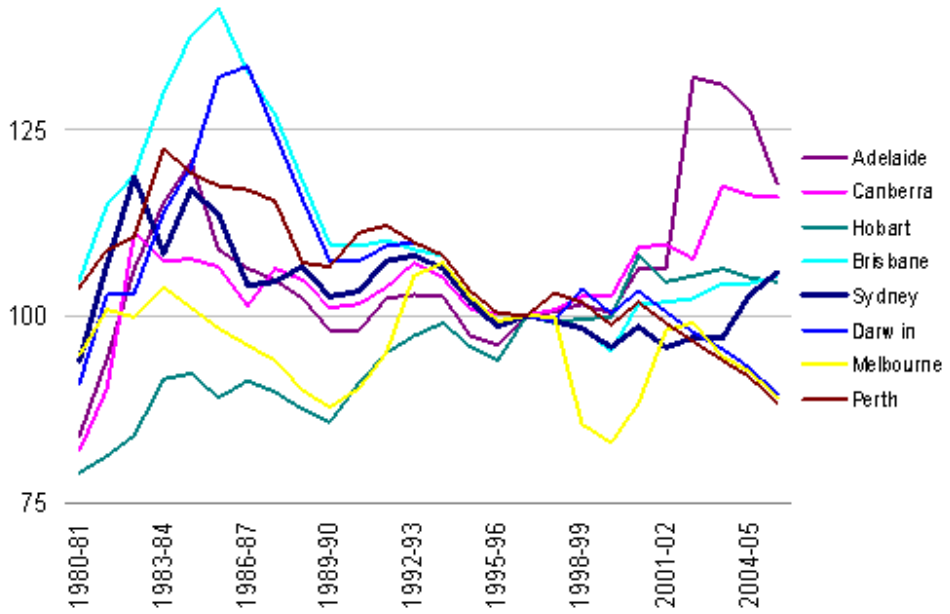
ERIG provided a number of issues and discussion papers, all providing historical data about the energy markets and reforms before providing its final report in 2007.

In its final report[10] ERIG observes that there had been significant change in the retail prices for electricity in each state as a result of the reforms introduced. On page 52 it provides a graph of the price changes that have occurred, and on the same page it observes:

> "In the period since the early 1990s when reform began, real retail electricity price indexes have generally been falling – particularly in Melbourne, where real retail prices have fallen at an average rate of 1 per cent a year. In Adelaide average retail prices jumped 24 per cent in 2002-03, associated with the removal of historical and regulated tariffs at a time when significant new investment in generation was required. Real prices have since fallen as retail competition in that region has increased. Retail prices include payments for network investments, which have been substantial in some jurisdictions in recent years, as well as the wholesale and retailing cost of energy".

[10] Energy Reform: The way forward for Australia A report to the Council of Australian Governments by the Energy Reform Implementation Group January 2007

... **2 Retail electricity price indexes by capital city** (1980-81 to 2004-05)



In real 2005-06 values, 1996-97 = 100, using CPI as the deflator.
Source: ABS 2006a,

In theory, if the issue is only about competition at the retail level, (and therefore competition will achieve the optimum outcomes for consumers), then there is an expectation that prices for the product would be much the same in each jurisdiction, with an adjustment for transport costs.

But this is not the case. There are quite distinct **regional differences** and these are related to the underlying costs at the wholesale market level combined with costs caused by a lack of free access to transport facilities.

Specifically in the SA region, ERIG noted that the reasons for the spike in the SA retail price was due to "…the removal of historical and regulated tariffs at a time when significant new investment in generation was required" and observed that retail prices have fallen as a result of an increase in retail competition. There is an essential disconnect between these two observations:

1. Implicit in the statements is that small consumer retail prices were initially cross subsidized in some way (which is unlikely because the only source of cross subsidization would be from large consumers and it has been observed that large consumer prices did not fall)

2. That prices increased due to a need for new investment in generation
3. That prices fell due to retail competition

ERIG, however, had erred. They should have recognised that small consumer retail prices fell because the new generation provided was lower cost, after an initial price rise in generation cost that was demonstrably unsustainable.

In fact, it was not that there was more retail competition that resulted in the retail prices falling, but that there was more competition at the generation level during the period that caused the prices to fall.

With this in mind it is, therefore, necessary to assess the various energy elements that comprise a retail offering to consumers.

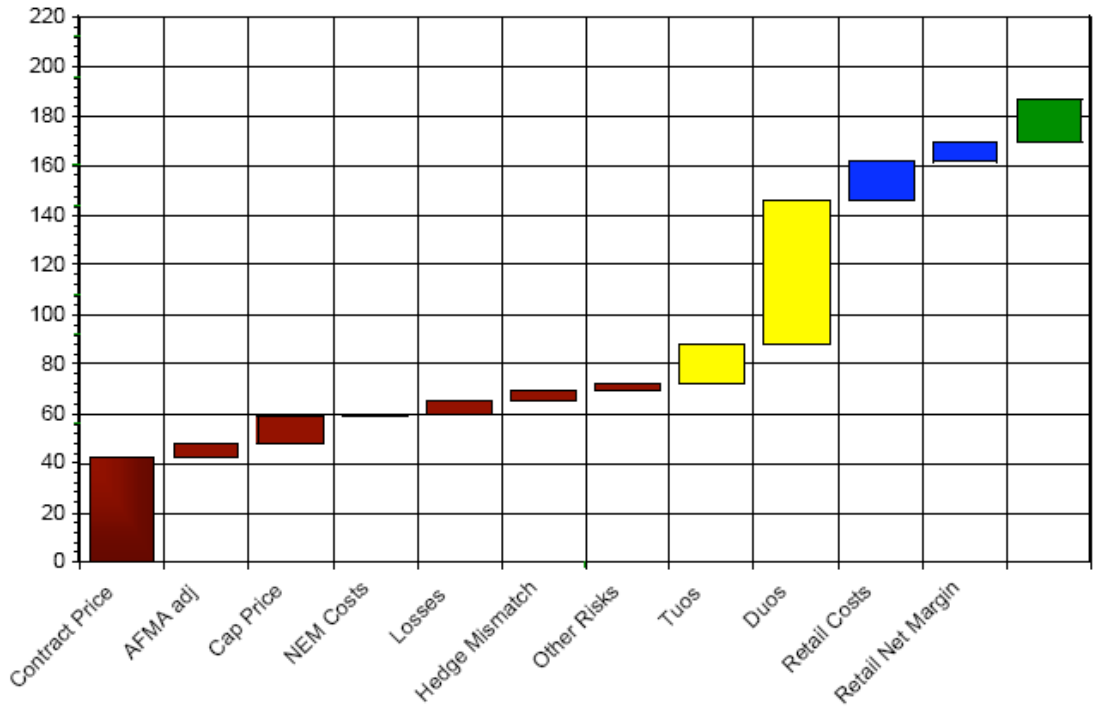
4. The retail price build up in SA

In 2002, the SA Independent Industry Regulator (SAIIR) was requested by the SA government to develop an amount for a retail price cap that allowed sufficient "head room" above costs to allow retailers to compete with each other. It is important to note that the spike in the SA small consumer retail price coincided with the subsequent decision of the SAIIR.

In arriving at its decision in late 2002, the (SAIIR) the forerunner of the Essential Services Commission of SA provided a detailed breakdown of the costs that are used by retailers to develop their retail prices to consumers[11].

This costs breakdown used by SAIIR has been graphically demonstrated by Bardak[12],[13] as follows:-

Fig 5.13 Components of End Tariffs in SA



This clearly shows that of the "delivered" price of $187/MWh for electricity to small consumers, the price breakdown is:

[11] SAIIR, ELECTRICITY RETAIL PRICE, JUSTIFICATION FINAL REPORT September 2002
[12] Bardak Ventures Pty Ltd The Effect of Industry Structure on Generation Competition and End-User Prices in the National Electricity Final — May 2nd 2005
[13] The last column (in green) shows the value of GST included in the retail price cap

Cost of supply of electricity	$73/MWh
Network charges	$76/MWh
Retail costs	$21/MWh
GST	$17/Mwh
Total	$187/MWh

Of these amounts, GST and network charges are fixed allowing the retailer of electricity to have control over ~50% of the total delivered cost of power. **Of this controllable element, the cost of electricity (the wholesale price) is some 80% of the costs a retailer incurs in the controllable costs of the retailer.**

Of the other element of controllable costs (retailer costs and retailer margin) again a large element is effectively fixed as a retailer is required under its licence to provide certain services to consumers, such as a call centre, detailed billing, meter reading and dispute resolution services.

The purpose of this breakdown of costs that a retailer must include in its pricing structure is to highlight two aspects:-

1. **Given that it must source electricity from the wholesale market, the ability of a retailer to be competitive in its own right is limited to**
    a. **adjusting its retail margin (assessed by SAIIR to be <5% of the delivered cost),**
    b. **how it develops its portfolio mix of generation costs from the wholesale market**
2. **The bulk of the controllable costs of a retailer is directly related to the wholesale electricity market**

Accepting that the bulk of the retail controllable costs are related to the wholesale electricity market, it is therefore very clear that the extent of retail contestability is primarily driven by the degree of effective contestability in the electricity wholesale market and the ability of a retailer to source the various elements of its portfolio mix to match its customers' needs.

Assessed from this viewpoint, the only conclusion that can be reached regarding retail contestability is that it is predominantly driven by wholesale contestability. If there is limited wholesale contestability then there will be limited retail contestability.

5. Retail competition in SA

5.1 The process

Addressing retail contestability purely from the degree of "churn" of customers between retailers assumes that retailers have a fully effective and contestable wholesale market from which to develop and deliver their retail product.

Analysis by Energy and Water Ombudsman (Victoria)[14], indicates that much of the "churn" of consumers is possibly driven by non-price inducements and "push" marketing (telesales, door-to-door sales) rather than a consumer seeking better pricing at the conclusion of its current contract. This is in contrast to the approach of larger consumers that actively seek new (and lower) pricing when renewing contracts for energy supplies.

The AEMC observes (page 16) that:

> "Competition between suppliers to secure customers for a relatively homogeneous product like energy often focuses on price. Accordingly, the price at which retailers offer to supply energy pursuant to a market contract may provide some indication of the extent of competition."

The AEMC goes on to state (page 16) that:

> "The availability of differentiated products and services [to induce a change] may also be indicative of the extent of rivalry between retailers. Product differentiation may be reflected in nonprice benefits (e.g. free gifts such as magazine subscriptions, movie tickets or household appliances) or discounts such as for paying on time or paying via direct debit."

This flies in the face of the entire energy reform process which was aimed at introducing greater efficiency and productivity into the supply of energy, and by doing so to effectively reduce the costs of energy incurred by energy consumers. As ERIG stated in it final report (page 3):

> "Access to competitively priced and reliable energy underpins the competitiveness of Australia's export industries, is a crucial input for the domestic economy and a key enabler for almost every economic activity."

This raises a very pertinent question – that if competition is apparent because of the churn of consumers, driven by non-price inducements, rather than by the effective reduction in the price of energy, then is any assessment of competition basically flawed if it is premised purely on

[14] EWOV Letter to AEMC 29 June 2007 Review of the Effectiveness of Competition in Gas and Electricity Retail Markets in Victoria

assessments of churn (particularly if driven by non-price inducements) rather than on price?

In Victoria, there has been observable churn of consumers between competing retailers, even under an operational price cap arrangement. The AEMC stated in its first final report[15] in relation to the Victorian market, that this churn was indicative of competition between retailers (see page ix):

> "The Commission's finding that competition in electricity and gas retailing in Victoria is effective is supported by evidence of customer behaviour. Customers are demonstrating a clear willingness to participate in the competitive retail market if approached directly by a retailer. …
> Indeed, the percentage of all domestic and small business customers in Victoria who have entered into a market contract is currently 60 per cent for electricity and 59 per cent for gas. The Commission expects these levels of participation to increase further as competition continues to develop.

This observation raises some questions.

- **Firstly, if, as the AEMC states, consumers will, and do, switch if provided with a lower price, then why is there a need for non-price inducements to encourage switching? This indicates that non-price inducements are required when there is no price differential driving a reason to switch.**
- **Secondly, if there is already a high level of churn with a price cap, then moving the price cap will have only a marginal impact, but the downside of removing the price cap could well lead to prices rising as retailers seek greater profitability**

EWOV[16] states in its response to the AEMC First draft report in the Victorian review:

> **"Levels of marketing abuses and bad practice**
>
> EWOV notes the following statement from page 81 of the Draft Report:
>
> > *In sum, there is no evidence before the Commission to suggest that misleading, deceptive or coercive marketing practices among retailers are a widespread or systemic problem in Victoria. The relatively low level of complaints to EWOV, particularly in relation to*

[15] AEMC Review of the Effectiveness of Competition in Electricity and Gas Retail Markets in Victoria First Final Report 19 December 2007
[16] EWOV letter to AEMC 12 November 2007

> *the marketing conduct of retailers, and the high level of satisfaction among customers with the switching process, suggest that retailer marketing has been pro-competitive and has assisted in the development of effective competition.*

EWOV is somewhat uncomfortable with the use made of its data to reach this conclusion.

The AEMC appears to have given little weight to the information provided by EWOV about the *issues* involved in marketing and transfer cases, and the systemic nature of them. It appears to have based its conclusion on aggregate figures alone."

EWOV goes on to explain that the figures it provides are but a small proportion of all instances of bad practices in the market, and that its recordings of actual cases are not an absolute assessment of all instances. In fact, EWOV points out that the complaints it receives are likely to be a small fraction of all dissatisfied customers, as the vast majority of people tend not to complain.

EWOV then adds:

"….However, EWOV is not convinced that sufficient regard has been paid to the apparent seriousness of the complaints [it receives]. For example, in 2006/07, a potential systemic or compliance issue was identified by conciliation staff in 43% of marketing cases. Further, customers raised the issue of transfer without consent in 447 cases. It is true this is a small proportion of switches but transfer without explicit informed consent is systemic in nature and the 447 cases are indicative of more customers who were transferred without their consent but did not take the issue further.

This issue of transfer without explicit informed consent goes to the heart of energy retail competition. Explicit informed consent is vital to effective competition from a consumer point of view, as the AEMC itself said in the Issues Paper, at p. 19.

In this context, EWOV is puzzled by the AEMC's reasoning on p. 97 of the [first] Draft Report – when it argues that reliance by customers on information supplied by the sales representative 'suggests that the direct marketing efforts of retailers is an efficient method for encouraging switching which has enhanced competitive outcomes from the perspective of both retailers and customers'. **Certainly it is a good outcome for retailers. However, it is hard to see that switching – when it is on the**

> **basis of partial or incorrect or misleading information – is good for customers**." (emphasis added)

The import of this EWOV correction regarding selective use, or worse, misuse by the AEMC of the data it provided, is an implication that a significant proportion of the churn used by AEMC to demonstrate "competition in action" could well have been the result of marketing abuses and bad practices.

This observation is supported by the intuitive view that if there is no significant difference in price between retailers (and that to achieve churn hard marketing and dubious practices are required), then churn does not indicate "rivalrous behaviour" in a way that delivers the benefits of improved productivity and efficiency.

When it is considered that 80% of a retail offering is dependent on sourcing from a number of different generators and obtaining financial instruments to reduce risk, then assuming retail competition is real, it would be surprising that retailers would have to resort to "hard sell" practices rather than make attractive low price offers. This is, in no small part, due to the fact that competition over the (small) retail margin is quite limited.

Just before submitting this document, UCW became aware of a report prepared for UK energy regulator Ofgem *by MORI, "Switching Rates for Vulnerable Customers." The web address is* **www.ofgem.gov.uk**

We have not had time to fully consider the report's findings or applicability to South Australia. However we highlight two findings from the report's summary:

1. *20% of gas switchers and 24% of electricity switchers did not think that they saved money as a result of switching and "one in six do not know".*
2. *Some vulnerable groups and those in rented accommodation are less likely than others to feel their switch has been successful.*

We draw the attention of the AEMC to this report

5.2 "Gentailer" competition in SA

A "gentailer" is the terminology used for a generator which has a large direct retail exposure, and a retailer which has a large generation portfolio. In the SA market, AGL is now the largest "gentailer" although prior to its purchase of TIPS, it could be argued that TRUenergy was the largest "gentailer" in SA. Origin Energy is the other gentailer in SA. Experience in the retail market indicates that neither International Power (Pelican Point and Synergen) nor Babcock&Brown

Power (Flinders Power) has a significant retail portfolio in terms of numbers of customers.

It must be noted that historically retail competition in SA in electricity has been predicated on a degree of competition in the wholesale market, when TRUenergy owned Torrens Island Power Station but did not have a retail market to fully utilise the output of the station. This meant that TRUenergy (although being one of the larger retailers in SA (along with Origin Energy and AGL) had excess generation capacity to sell, and therefore could be classed more as a generator rather than as a retailer. TRUenergy, therefore, had a driver to offer capacity to other retailers at prices that should be competitive in order to maximise the generation of power from TIPS, and thus derive its revenue.

However, the sale of TIPS to AGL results in a different situation entirely. Due to its large retail contracting, AGL Retail (which has over 70% of the retail market share[17]market in SA, and as the other large retailers have concentrated on the industrial markets, then AGL is likely to have a much higher proportion than 70% of the market for small consumers) has to have contracts with generators other than TIPS as TIPS does not have the full capacity (nor perhaps the appropriate cost structure for all of its capacity) that AGL needs to supply against its retail contracts. Thus as distinct from TRUenergy which was a net exporter of power, AGL is a net importer, and this results in a major shift in strategies for contracting TIPS capacity and any bidding behaviour that TIPS undertakes.

As AGL needs to have significant hedge contracts, particularly with the base load generators, in order to match its retail load, AGL is in a unique position to utilise the output of TIPS in a way that allows it to maximise its net revenue, and to cause its retail competitors to incur revenue loss. Such a strategy would allow it to remain the dominant retailer in SA.

Thus in any assessment of retail competition in SA, careful analysis of the structure and capabilities of AGL with its ownership of TIPS, is essential, as it is clear that this combination (of dominant retailer with dominant generator) has the ability to change the dynamics of retail competition in SA from the situation that historically applied.

This change in focus of the “gentailer” based on TIPS from what it was to what it is now should be seen in the light of the observations by Prof Stephen Thomas Professor of Energy Studies of Greenwich University who suggests[18] (page 7):

[17] Bardak Ventures Pty Ltd The Effect of Industry Structure on Generation Competition and End-User Prices in the National Electricity Final — May 2nd 2005, page 26

[18] Thomas S, “*New South Wales Government Energy Directions Green Paper*”, Public Service International Research Unit, University of Greenwich, London, February 2005.

> "In a monopoly electricity business, the retail part of the industry (purchasing power, meter-reading and billing) represents a small and simple activity. Typically it accounts for no more than 5 per cent of the cost of supplying a consumer and the risks involved are minimal and are borne entirely by consumers. However, in a fully competitive market, retail is transformed into a highly risky business. Unlike most retail businesses, electricity is entirely a standard product. This means that retailers should not be able to rely on 'brand name' or 'product differentiation' to protect their market share if their price is not the lowest. It is not possible in a network industry like electricity to buy a 'better' or a 'more prestigious' kWh of electricity. Consumers will only be interested in price and should, in theory, switch regularly to the cheapest supplier. Under economic theory, this should mean that prices will be forced down to short run marginal cost levels, levels too low to allow replacement of old assets and for new assets to be built to meet demand growth.
>
> Retail businesses are not as risky in practice as theory would suggest: consumers do not ruthlessly switch retailers frequently; they often cannot make the appropriate price comparison; the savings available do not justify their time; and they believe that buying from a trusted supplier will give them a better service. This means that electricity markets do not become ruinously competitive *because* the market is not working as a theoretically ideal market should."

Professor Thomas goes on to say (page 8):

> "Hedging contracts between generators and retailers allow generators to bypass the Pool so that the price paid or received is entirely independent of the Pool price. However, for a hedging contract to be credible, a retailer would have to be able to forecast its market share reasonably accurately for the duration of the contract. This is clearly not possible if there is a genuinely competitive retail market because market shares would vary according to competitive advantage. If a retailer goes bankrupt perhaps due to errors in market share forecasts, any contracts it has with generators become worthless. Hedging contracts have generally only been a short-term measure and most liberalised electricity systems have moved towards integration of generation and retail. The enforced break-up of traditional distribution-retail companies leaves retail businesses very vulnerable to take over.
>
> In theory, [vertical] integration is wrong, because if retail and generation are integrated, the wholesale market will be bypassed. Companies will generate to supply their own consumers directly and the wholesale market will be too little used to provide useful price signals. From a competition point of view, this is a very dangerous situation because the barriers to entry for new generators or retailers become very high. Who would a new generation company sell its power to if all the retailers had their own

> generating capacity? And who would a new retail company buy its power from if all the generators sold their output to their own retail businesses."

What Thomas is effectively stating is that a theoretically competitive retail market cannot provide security for consumers, as retail without generation is extremely risky and can leave both consumers and generators financially exposed. Equally retail with generation reduces competition by bypassing the wholesale market.

Thomas observes that the outcome of vertical integration results in a lessening of competition in the wholesale market and provides barriers to new entrant retailers and generators. The very fact that the ownership of TIPS has changed and that the new owner of TIPS is an energy importer reduces competition both at the retail level and the generation level, causing a lessening of competition in the SA market. However, this sale has occurred and it is very unlikely that the ACCC is able to reverse its decision allowing this merger.

Lessening competition allows for the aggressive exercise of market power and as detailed in section 6, this was the result in SA in summer 2008. Use of market power (i.e. actions in the absence of effective competing market forces) is not in the interests of consumers who will face higher costs than are necessary. Thus any attempt to reduce regulation (by the elimination of a price cap) will have little effect on increasing competition, but will provide the dominant "gentailer" with an ability to set its own prices, with other retailers following the price setter up till the point these retailers cannot supply any further. Maintenance of the retail price cap (with some head room for competition on the margin by retailers) does provide the necessary security consumers need in such an environment as we now see in South Australia.

6. Wholesale competition

Wholesale competition is effectively competition amongst generators and financial institutions offering risk mitigation products to retailers.

6.1 Generation dispatch in the NEM

The structure of the NEM is that generators are required to dispatch all of there production into a common pool. This electricity is allocated to generators based on price offerings for generation by each generator to the independent system operator NEMMCo. There is no compulsion for a generator to offer capacity, and a generator may withdraw an earlier offer and replace it with another (this is termed "rebidding"). NEMMCo allocates generation based on price with adjustments for inter-regional loss premiums. When interconnection between regions is constrained, NEMMCo allocates capacity to generators "out of merit order" if they can supply within the constrained region. This immediately provides generators within a region, reduced competition because further allocation excludes all generation from outside the region and all generation previously dispatched within the region is able to rebid their supplies for the constrained demand.

Thus competition within a region for future dispatch is reduced increasingly as demand increases, and competition is even more reduced as interconnection is constrained.

Generators have the option of either only bidding such that they secure their revenue exclusively from the spot market, or by hedging their output with a counterparty – usually a retailer – whereby the generator agrees a strike price for its output and thus fixes its revenue regardless of the spot market price.

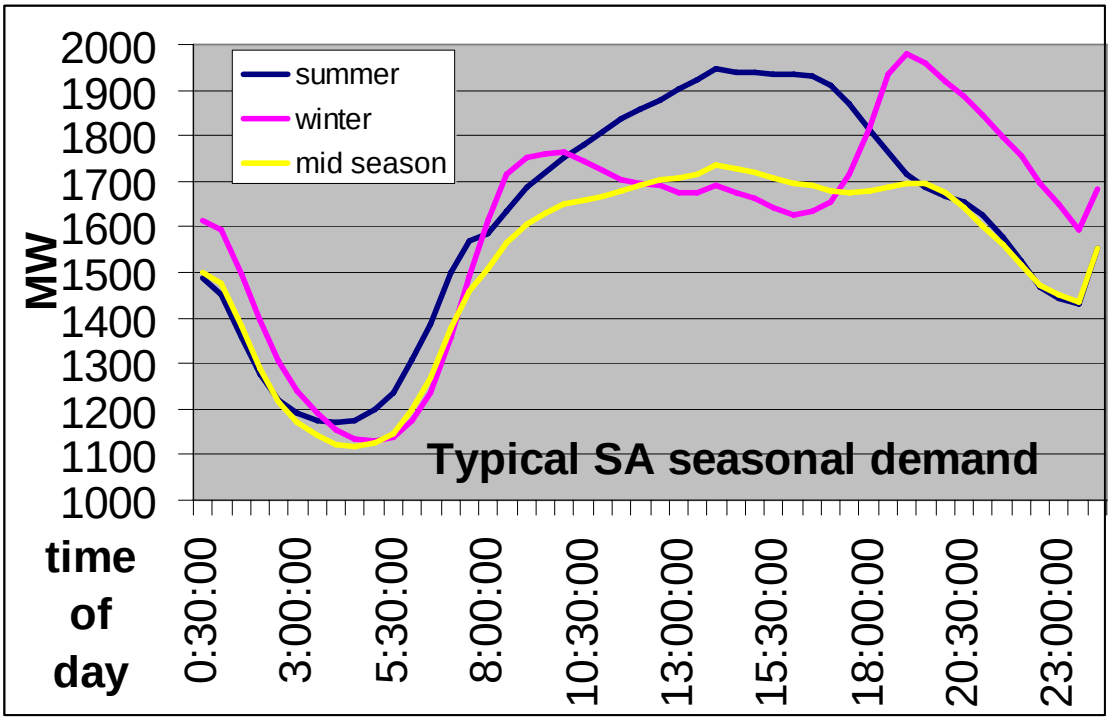
Hedging between a generator and retailer is usually limited to where both the generator and the retailer will supply and sell the power within the same region. This is because the risk of a constraint on interconnection is high, but indeterminate, and can result in large price differentials between adjacent regions and effectively a retailer is unable to fully manage the risk of the price differential[19]. Unknown timing of a constraint, of an unknown duration with an unknown price differential provides a high risk with potentially high price premium.

Thus wholesale competition within a region is constrained by the physical limits on interconnection and by the amount of generation that has already been dispatched.

[19] It is accepted that there are methods for partially mitigating this risk such as through purchasing inter-regional settlement residues, but this does not provide 100% risk mitigation and it is accepted that trading across interconnectors is limited.

6.2 Demand in SA

Although a regional demand shape is reasonably predictable over the longer term, regional demand is very dependent on weather, specifically the ambient temperature. A region's demand increases as the temperature moves away in either direction from a temperate level, notionally in the range of 19-23 degrees Celsius. As the temperature rises above this range, the demand for cooling increases, and below the range, the demand for heating increases. This can be shown graphically.



Source data: NEM Review

This graph shows that winter has a higher average peak demand than summer, with two distinct spikes of demand in the morning and evening when heating is required. The summer peak occurs mid afternoon when the maximum cooling load applies.

6.3 Retailing in SA

The purpose of showing the above varying demand shapes is to demonstrate that a retailer must develop a portfolio of supply, varying between the seasons. A typical portfolio has a mix of base load generation (such as from Northern power station or Pelican Point), some intermediate generation (such as from Torrens Island PS), and peaking generation (such as from Quarantine or Hallett).

Whilst SA has extensive wind generation, this is contracted only for its "green credentials" as wind, due to its intermittent characteristics, cannot be assumed to be always available to meet expected demand, and contracting firm generation is essential to underpin a retail contract. As there can be no certainty as to the actual demand that will occur, most retailers have exposure to the spot market, either in a "sell" or "buy" mode depending on whether the actual peak demand is lower (=> sell to) or higher (=> buy from) than expected. To mitigate the risk of trading in the spot market, retailers include in their portfolio financial instruments, the most common of which is the price cap (most commonly at $300/MWh) which shields the retailer from excessive regional spot prices.

SA has 26 licensed retailers although many are multiple licences to the same legal entity; retail licensees include AGL, Aurora, AP&G, BHP Billiton, CE, Cowell, Dalfoam, Coober Pedy Council, Dodo, EA, ERM, Flinders, International Power, Jack Green, Jeril, Momentum, Roxby Downs Council, OneSteel, Origin, Red Energy, SA Electricity and TRUenergy. Of these retailers, five are also licensed generators as well, leaving some 17 retailers (over 75% by number) needing to have access to competitive generation in order to provide a retailing service to their customers. AGL Retail has over well over 70% of the small retail market with AGL, Origin Energy and TRUenergy holding large elements of the industrial market.

6.4 Generation in SA

The bulk of generation in SA is limited to a very few owners – effectively five – AGL, Origin, B&B, IP and TRUenergy[20].

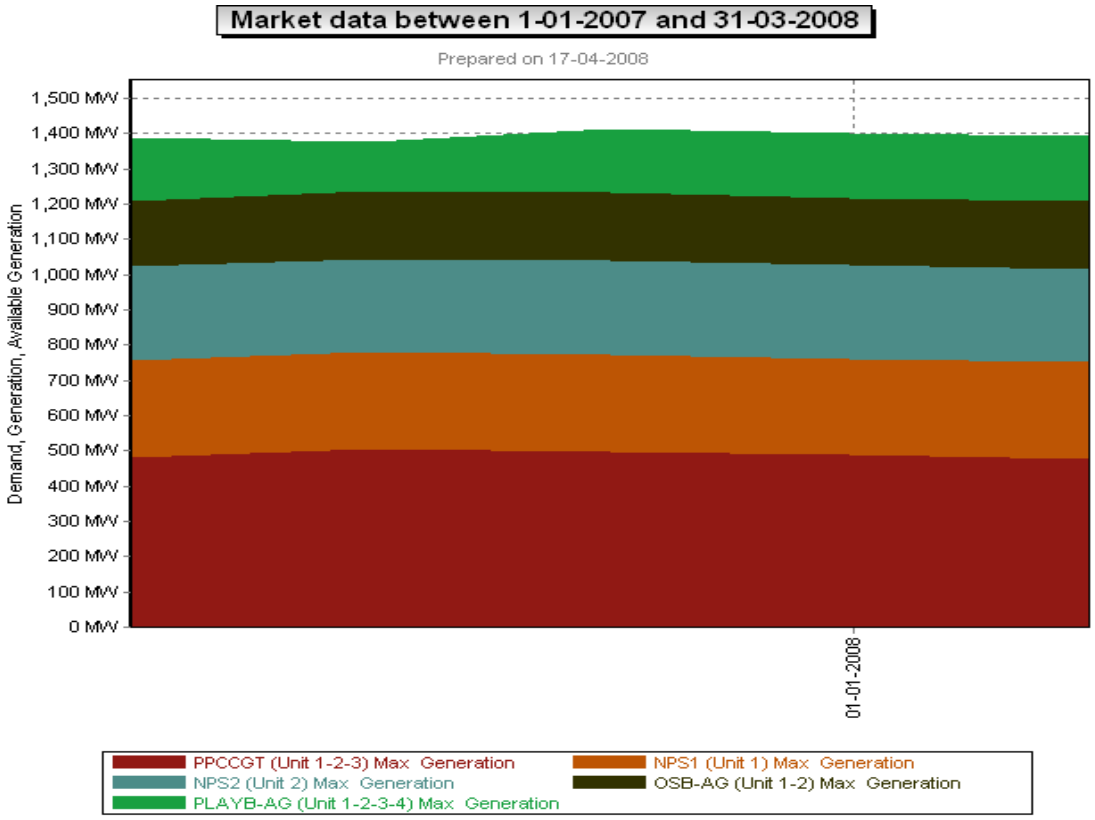
Generation is effectively ranked into three categories – base, intermediate and peaking. Base generation is low cost but has long start up and shutdowns times (usually measured in many hours), and needs a stable operating regime; typically base load generation is coal fired. In counterpoint to base load, peaking plant is low capital cost but high fuel cost. It can start up and shut down in minutes, and uses gas or oil as a fuel[21]; such plant is usually less thermally efficient than other rankings of generation. Intermediate ranked generation has a higher operating cost than base load generation, but is more flexible in its operating regimes with faster start and shut periods. It is more thermally efficient that peaking generation.

A typical generation mix providing lowest cost would have baseload generation operating continuously, intermediate operating for long periods each day, but not continuously, and peaking plant operating for short periods each day.

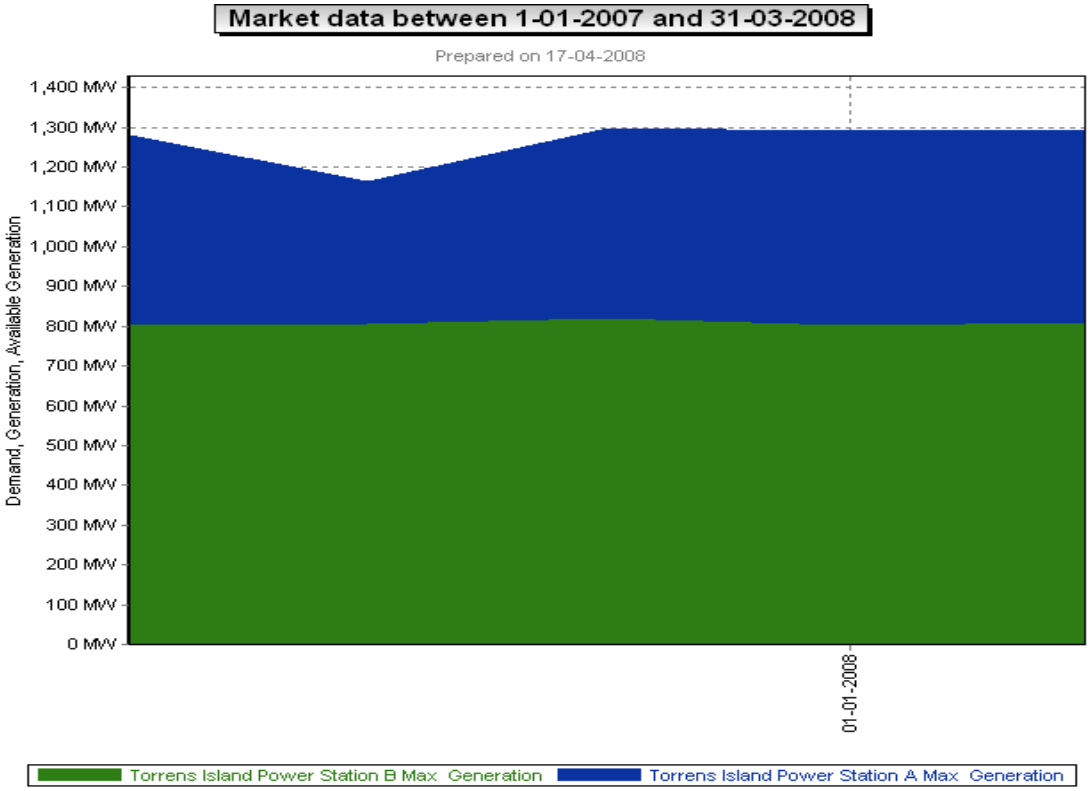
[20] The Osborne cogeneration plant has been excluded from this listing as it has to be dispatched to meet its thermal energy requirements

[21] Hydro power is also a peaking ranked generation but this has a high capital cost and effectively zero fuel cost. There is no hydro generation in SA.

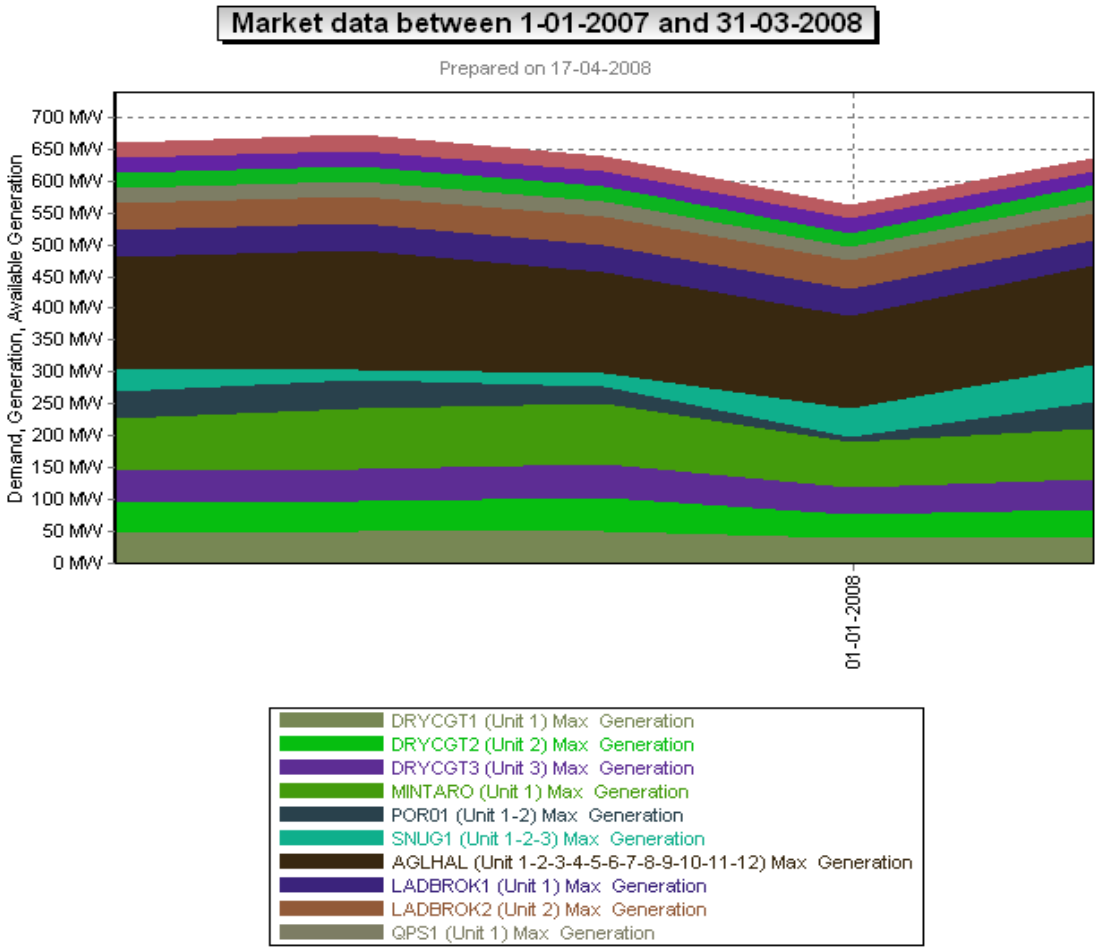
SA Baseload		**1400 MW**
International Power	Pelican Point	500 MW
B&B power	Northern	720 MW
	Playford	
Cogeneration	Osborne	190 MW



Intermediate		**1300 MW**
AGL	Torrens island A	500 MW
	Torrens Island B	800 MW



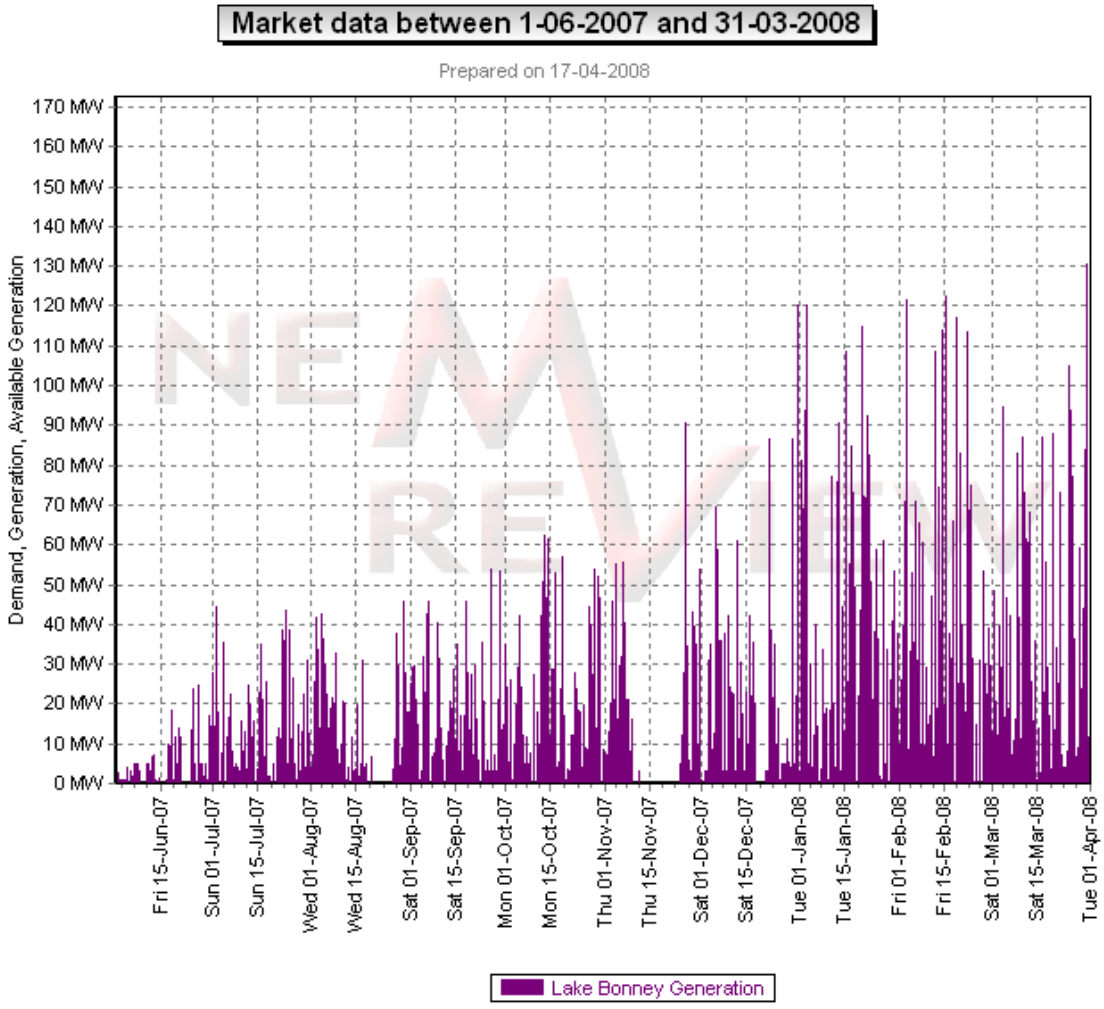
Peaking		**660 MW**
International Power	Dry Creek	300 MW
	Mintaro	
	Port Lincoln	
	Snuggery	
TRUenergy	Hallett	180 MW
Origin	Quarantine	180 MW
	Ladbroke Grove	
	[Quarantine 2	120 MW by end 2008]



Other sources of power for SA

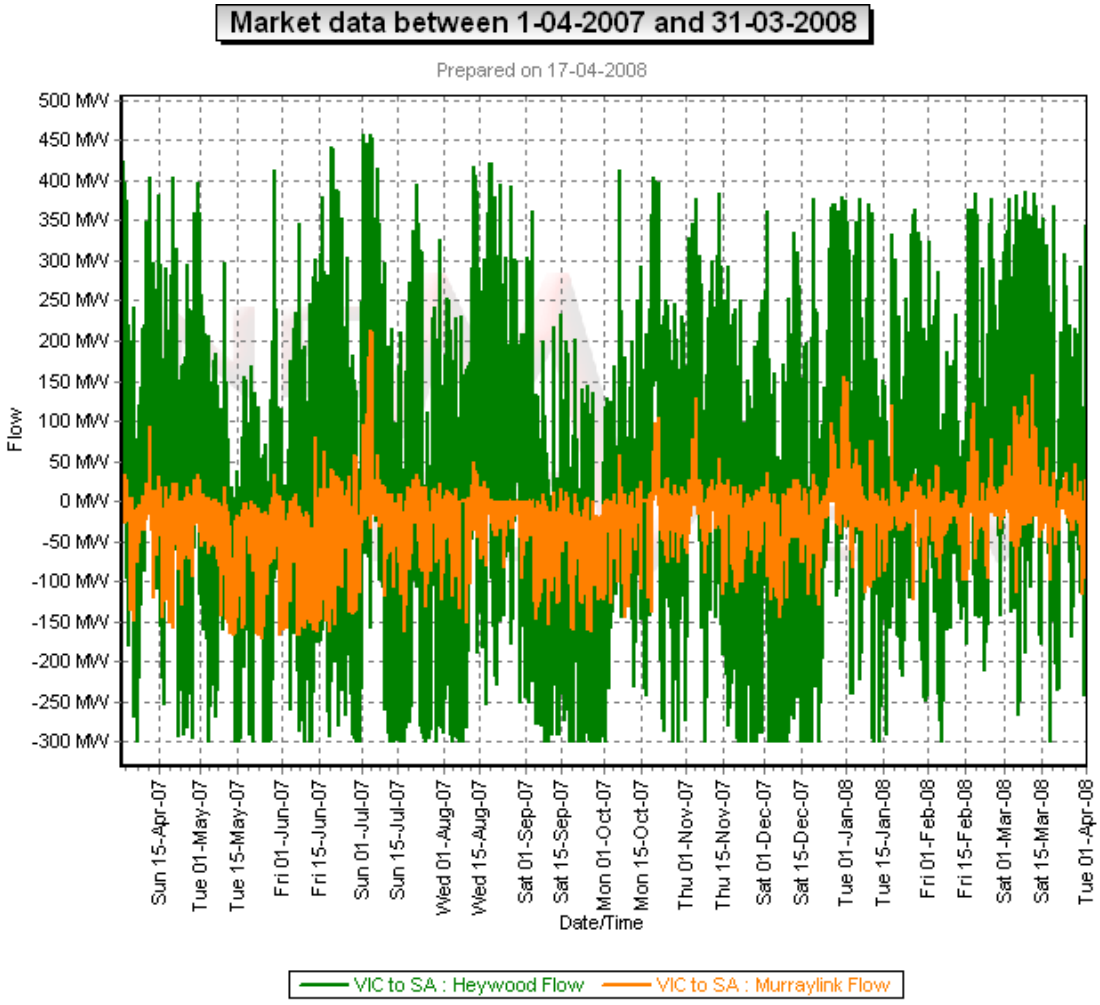
Indigenous dispatchable generation is not the only provider of electricity to the SA market. In addition to this generation there is some 400 MW+ of wind generation and two interconnectors with Victoria – Heywood rated at 460 MW and Murraylink rated at 220 MW.

The lack of a wind farm to provide power when needed is obvious from the following graph which shows the extent of the intermittency of its generation. This intermittency prevents a wind farm being contracted by retailers to provide power to suit demand. Wind farms effectively provide “green” power and when operating displace scheduled generation from being dispatched.

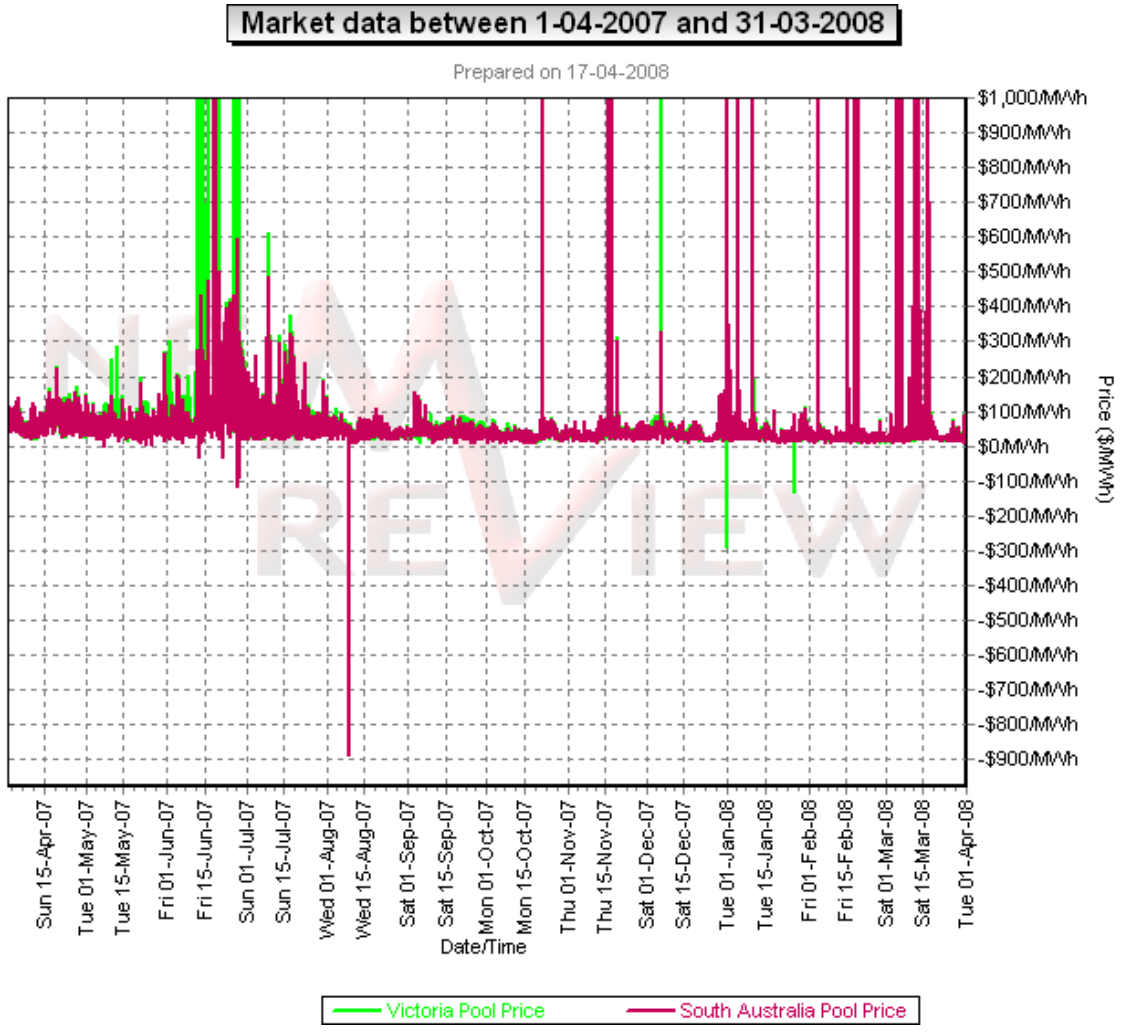


Equally the transmission of power over interconnectors creates difficulties for retailers seeking firm contracts from generators to offer to their customers.

The following graph shows the actual flows on both these interconnectors for the past 12 months. Again seeing the degree of volatility of the flows is an indication of the lack of certainty a retailer might have in assuming it can contract firm supplies across the interconnector. Of particular note is the paucity of flow into SA over Murraylink, even when flows on Heywood indicate there is a need for power in SA. This is a direct result of constraints in the SA and Victorian networks preventing Murraylink from reaching its full potential.



Whilst not all high flows in any direction on an interconnector are indicative of network constraints, network constraints can be shown when the regional prices separate by more than the differential caused by system losses. The following graph shows this quite clearly



Each time there is a separation shown between the two curves, there was a network constraint, and the costs a retailer would incur by taking the risk on sourcing power from the adjacent region in any year would be measured in terms of many $Ms. In fact the AEMC makes this point in its Directions Paper on Congestion Management[22]:

> "The current inter-regional settlement residue (IRSR) regime has some notable shortcomings in this regard." (page ix)
>
> "One way of considering the extent to which IRSR units provide a *financially* firm inter-regional hedging instrument is by observing the volume of interconnector flows at times of price differentials between the relevant regions. For the units to be a fully financially firm instrument, inter-

[22] AEMC Congestion Management Review Directions Paper 12 March 2007

> regional price divergences must only occur when interconnector flows are at their expected limit (and there is no risk of the interconnector limit being de-rated). If price differentials open up at other times, the resulting settlement residues will not be sufficient to hedge an equivalent interregional contract exposure. Indeed, analysis undertaken for the ERIG Energy Financial Markets Discussion Paper shows that this is often the case. For example, for southward flows on QNI during 2005/06, inter-regional price separation occurred almost as often when QNI flows were 600 MW as when flows were near their limit of 1,200 MW." (page 24)

This identifies that there is currently no commercially based ability for a retailer to take a firm supply position on the basis of interconnector flows.

This analysis provides the view that a retailer (if it is to minimise its risk by hedging its expected load offers) will only seek firm offers from scheduled generators within the region. This reduces the scope for competitive sourcing of generation and increases the ability of the regional generators to exercise market power due to the relatively modest competitive environment available to retailers.

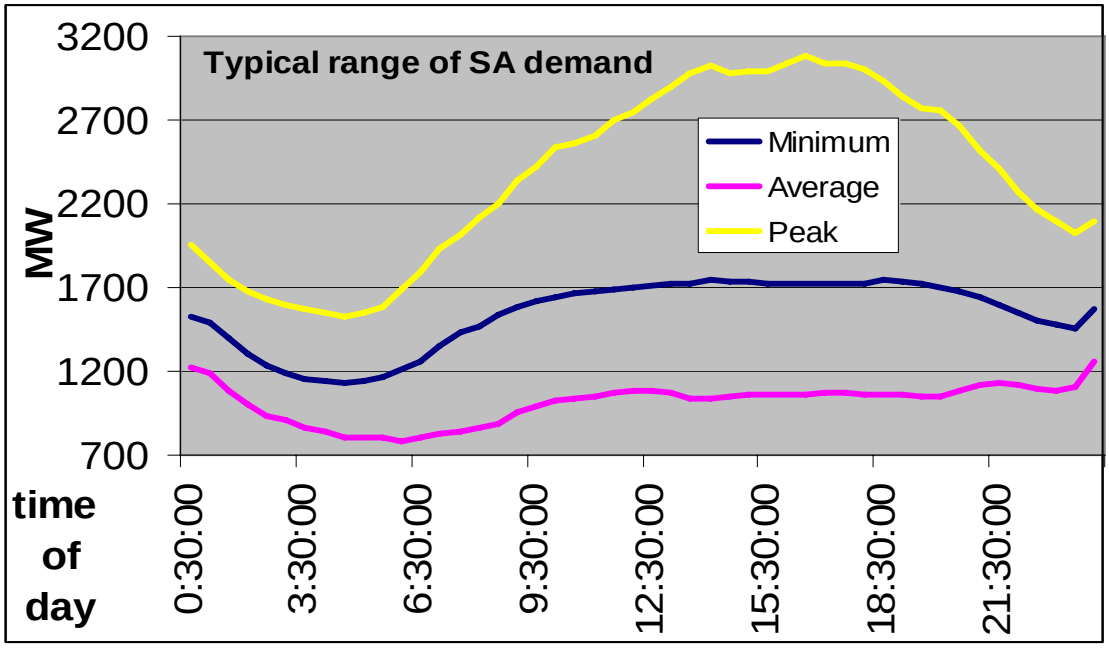
In theory, there is some 3360 MW of installed generation in SA that is firm. Against this the peak demand reached so far in SA was 3080 MW on 17 March 2008, a safety margin of nearly 10%. This simplistic analysis is misleading, as generation has a long term availability of ~90-93%, and generators are loath to contract themselves to their maximum capacity for to do so exposes the generator to significant risk if it loses a single generation unit.

Applying this availability discount means that there is only just enough firm generation in the SA region for the incurred peak demand. If a generator decides that it needs to have spare capacity available for an emergency, then there is insufficient firm generation available for the incurred peak demand[23].

6.5 Contracting power supplies in SA

As noted above, the average demand in SA varies between seasons, but it also shows significant variation between its peak, its minimum and average demands. A retailer seeking to hedge the demand of its contracted customers must assess the structure of the demand in SA. This is very complex, but the following provides an indication of the basics of how a retailer develops its contracting position with generators to meet its load, which is demonstrably extremely variable.

[23] This tight supply arrangement will be eased slightly (but not prevented) when Origin Energy's Quarantine stage 2 is completed by end 2008



Source data: NEM Review using NEMMCo data

The import of this graph shows that the typical minimum demand of ~1200 MW absorbs almost the entire firm base load generation of 1260 MW[24] – this means that to all intents and purposes the base load generation in SA is dedicated to providing just the average minimum demand of SA consumers. To contract to meet the expected demand the retailer must also source intermediate ranked generation just to meet the average demand. There is insufficient peaking generation in SA (currently 660 MW of which only 600 MW would normally be available) to provide power for the range between the average demand and peak demand, and so the intermediate generation must provide for a significant part of the generation above the average demand.

However, even accepting there might be just sufficient from generation available for retailers to secure firm generation offers for their expected load, they face a need to source intermediate generation to provide for the difference between the minimum demand and the average demand and also to provide for some of the generation between the average and the peak demands.

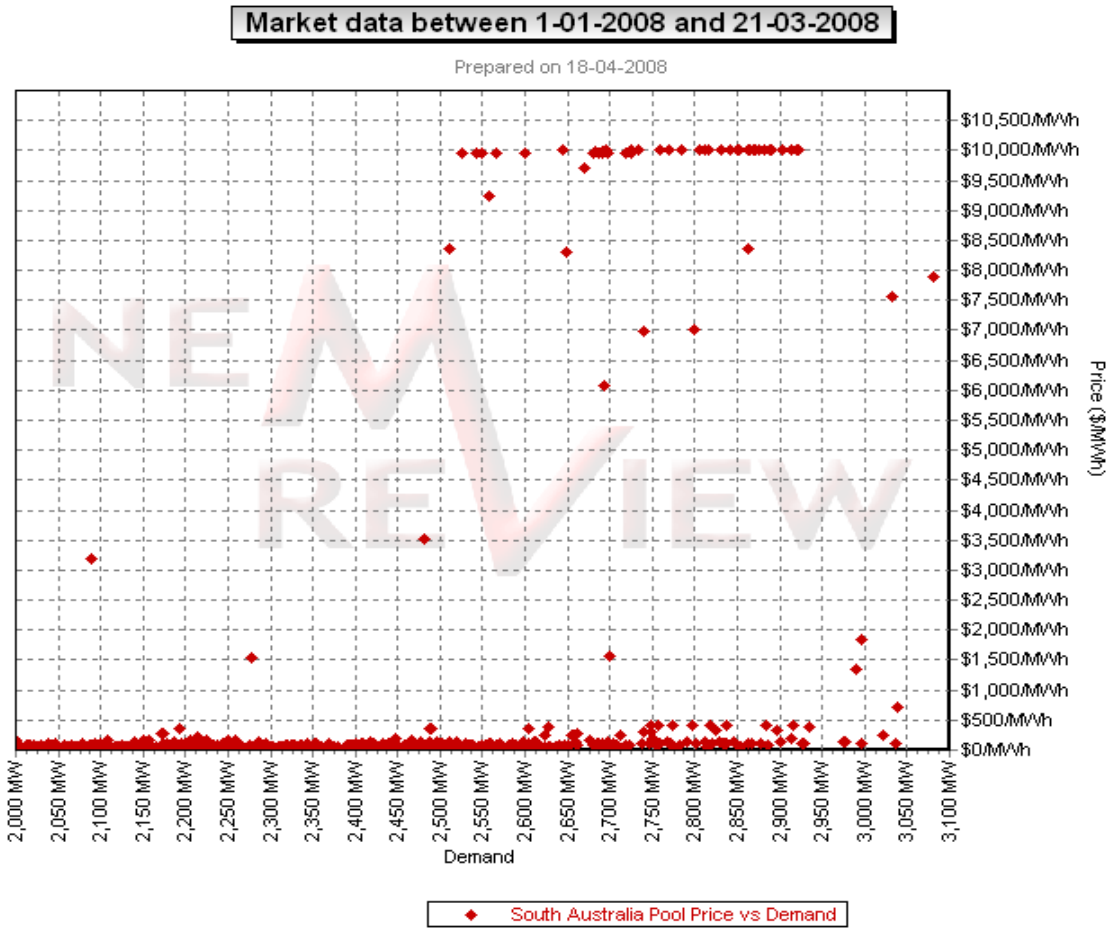
Retailers have only one source of firm contracting of intermediate generation – from the AGL owned Torrens Island PS (TIPS), giving TIPS a position of market power when retailers seek firm generation offers. This is made more complex for aspiring retailers, as they must seek offers from the dominant retailer if they are to provide the lowest cost mix of generation for their customers.

[24] 1260 MW is the baseload capacity of 1400 MW discounted to 90% for actual availability

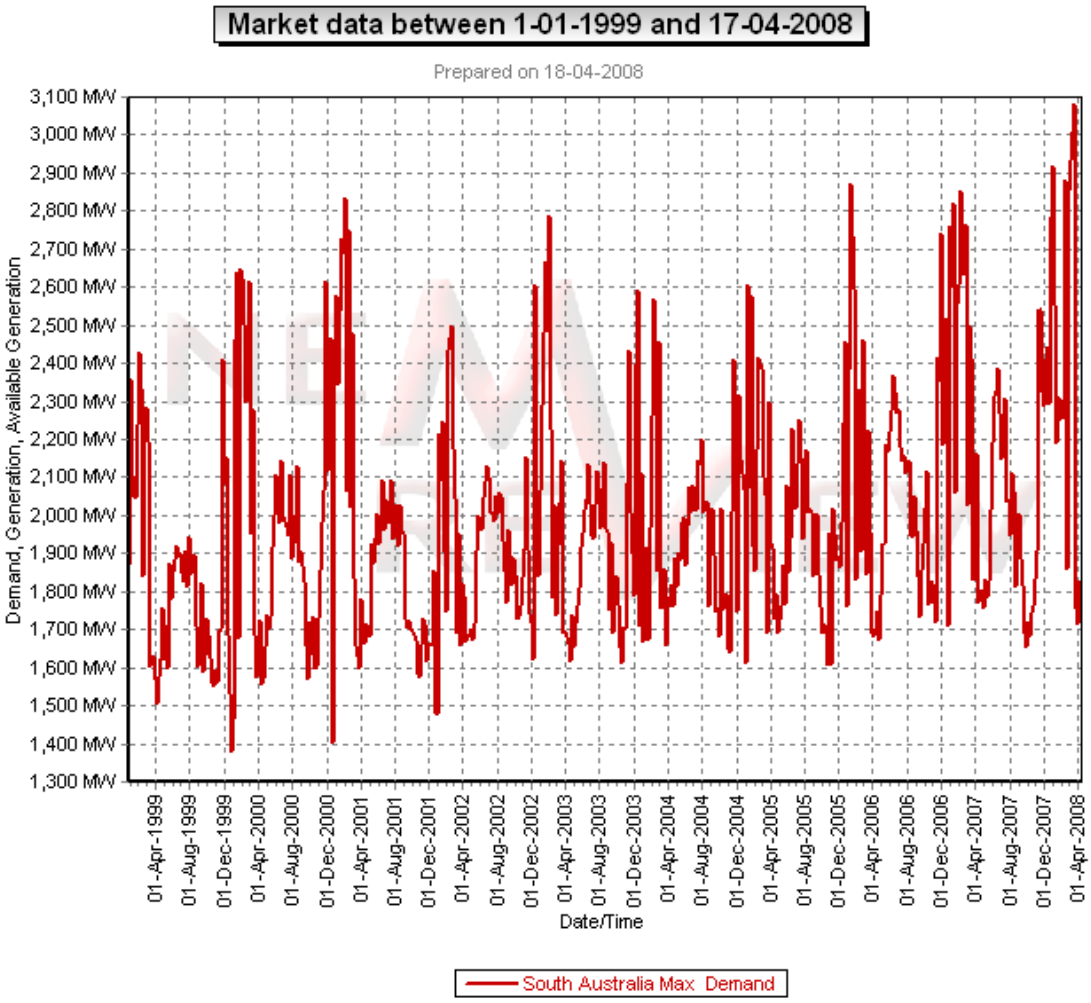
Effectively, AGL/TIPS must be a provider to all SA retailers for a part of their generation portfolio mix, unless the retailer is prepared to take some risk on sourcing power from the less reliable wind and interconnector supplies – effectively to take the risk on sourcing from the spot market should the wind or interconnector fail.

6.6 Taking spot risk in SA

In the summer of 2008, the half hourly spot price in SA exceeded $300/MWh on 74 occasions, exceeded $1000/MWh on 57 occasions and exceeded $9900/MWh on 41 occasions in the three month period. This indicates that taking any exposure to the spot price was extremely risky. What is just as concerning is that these high prices were endemic when demand was at or above 2500 MW, a relatively modest level!



Every summer since the commencement of the NEM, demand in SA has exceeded 2500 MW, as the following graph of the weekly high demands shows:



This clearly demonstrates that what occurred in summer of 2007/08 could apply every summer and as demand increases, this ability of TIPS to set prices gets stronger, and the same outcome as seen in summer 07/08 can be expected to be repeated.

The Major Energy Users provided a report to the AER[25] regarding these price events and identified that AGL/TIPS had set the spot price in SA during summer 2008.

The MEU concluded (page 47):

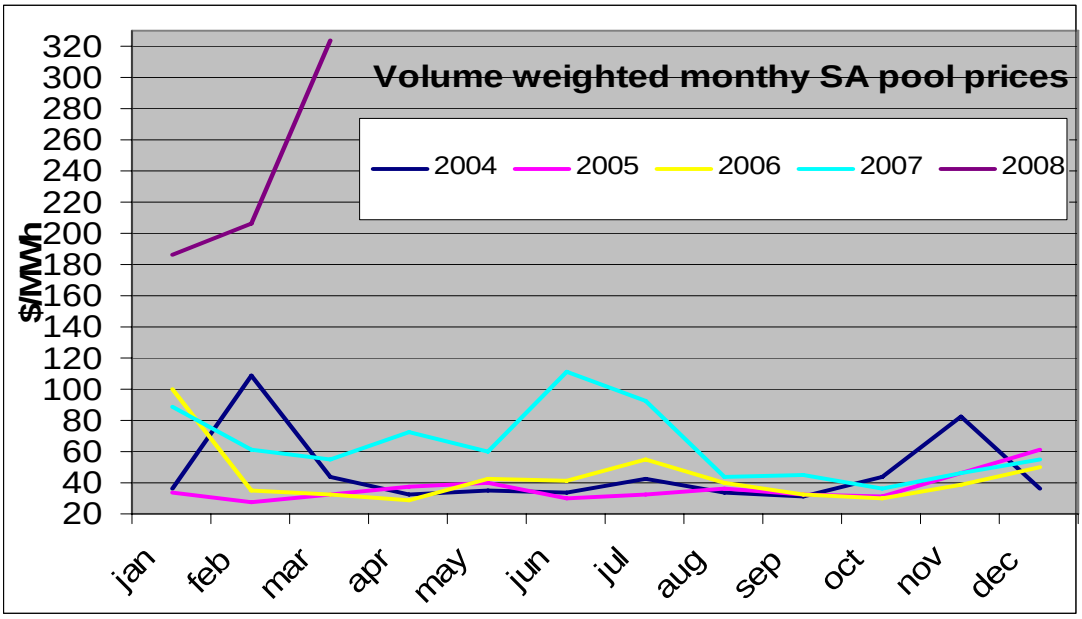
[25] MEU, **Investigation Into the Price Spikes in South Australia On 4 and 10 January 2008, February 2008**

> "TIPS has set the spot price in SA, both by spiking the price and creating a floor price.
>
> Effectively, TIPS used its undoubted position of market power in the supply arrangements and the Rules to their maximum benefit, in order to create an apparent shortage of supply. Whether this was done through strategic bidding, or even rebidding, the TIPS approach is unique to it, due to its dominance as the largest generator in the SA region.
>
> This approach by TIPS is analogous to any supplier in the market attempting to drive up prices. If the supplier can effectively create an artificial shortage of a needed product with no scope for demand responses then by doing so, it can drive prices up."

The MEU points out that the market power that TIPS has could get even stronger due to constraints in the Heywood interconnector (page 47):

> "Flows from Victoria to SA are being constrained by wind farm outputs at Snuggery, in the lower SE of SA, and this is going to get worse as Lake Bonney Stage 2 wind farm is complete, because this will effectively double the intermittent generation connected at Snuggery and constrain Heywood even more."

That a single generator has the ability to set the SA spot price creates a major (even insurmountable) risk for SA retailers (other than AGL Retail). During Q1 of 2008, it is apparent that TIPS used its market power aggressively to increase the quarterly average volume weighted price dramatically above historical levels to nearly $200/MWh. The following graph shows the monthly average volume weighted spot prices in SA for the last 4 years, indicating the outcome of the use of the market power held by TIPS.



Source: NEMMCo data

With outcomes possible such as seen in the first quarter of 2008, retailers would be extremely loath to expose themselves to the spot market.

In fact, the only retailer that could take such spot risk would be AGL, Retail as it has the ability to offset its risk through the revenue it raises through generation at TIPS.

6.7 Conclusions

It is apparent that there is a structural problem in the SA region of the NEM which has caused a significant lack of competition in the supply of wholesale electricity.

1. There is barely sufficient indigenous firm generation in SA to match the peak demand in the region.
2. Taking the risk on interconnection and wind generation exposes retailers to the spot market
3. The spot market has shown extreme volatility in summer of 2008, directly related to the sale of TIPS to AGL
4. The dominant generator in SA has the market power to set the spot price every summer.
5. Retailers must have firm generation offers to avoid the risks inherent in relying on interconnection and wind generation, and must avoid being exposed to the spot market
6. In order to make offers, retailers must include in their portfolios of generation, an element of power supply from TIPS, which is owned by a competing retailer.

This assessment indicates that competition in the wholesale market for generation is heavily impacted by the ownership of the largest generator in the region, and not to include that generator in the portfolio mix, means that the retailer must take some sot market risk.

This risk of spot market exposure is very high as AGL/TIPS has the market power to set the spot market price every summer. In turn, this drives the price level of hedge and other contracts in SA. The merged AGL/TIPS, a vertically integrated business with dominant generation and retail reduces the liquidity in the market place, thereby limiting competition at the retail level, including deterring new entrants at both the generation and retail sectors.

7. Comments addressing each of questions raised in the Executive Summary of the AEMC's Issues Paper:

(1)Are there features of the South Australian electricity or gas retailing environments that have a bearing on the development of competition? For example, are there barriers facing potential new retailers that affect their decision to enter the market? Are there barriers facing existing retailers who intend to expand their retail business that affect their ability to do so?

The degree of competition at the retail level is significantly and almost wholly, dependent on the market structure of the generation sector. In South Australia, there is one dominant generator able to capture the highest proportion of revenues across the electricity supply chain. Worse, this dominant generator is part of a vertically integrated business, which is also the dominant retailer. The shares of AGL/TIPS at the generation and retail levels are ~40% and ~70%respectively.

At the generation level, TIPS is able to capture up to 40% of the total wholesale revenue based on its share of generation, although in reality this will be much higher due to its unique role in the SA generation supply market where it can effectively set its own price for contracts through its dominance of the intermediate generation element. Through its vertically integrated business structure, economic rents can be moved across the business chain.

- The dominance of a "gentailer" deters new entrants at both the generation and retail sectors as shown in earlier sections
- There is very limited demand responsiveness in SA and this is limited to a very few large consumers who can offer up to half of their usual demand for limited periods. In practice, the amount of DSR is insignificant compared to the volume of generation that can be added or removed from the SA market by AGL/TIPS
- The experiences of summer 2008 show that AGL/TIPS has market power to set spot prices over long periods, and has done so
- Empirical observations show that at the large user contract level
    - There is little evidence of retail competition – and what there is, is very limited and dependent on special factors
    - What competition there is, is restricted to that of the very large retailers who have some degree of generation cover
- The risk premia in SA are probably the highest in the NEM and retailers uncontracted to generators are being deterred, and those retailers with contract positions with generators are having to charge high prices.

(2) Are retailers competing vigorously to acquire new customers and retain existing customers? For example, are retailers seeking to differentiate their product and service offerings in an effort to produce at least cost the products that customers want and value most? Do retailers respond to changes in consumer taste by offering new, different and better products in a timely manner? What marketing strategies are retailers using to communicate and engage with customers?

- There is no empirical evidence of rigorous competition at the industrial market level, and our assessment as shown in section 5 above (including the work by EWOV) indicates that there is modest retail competition and that is constrained by a significant lack of competition at the wholesale level.

(3) Are customers participating in the competitive market? For example, are customers prepared to switch retailers or not, and what are the reasons behind their choice? Are customers able to make an informed choice to switch energy retailer or enter into a market contract, or are there obstacles to customers effectively participating in the competitive market? Is there sufficient information available to customers about their options and is this information easily accessible and able to be understood? Is the information conveyed by retailers through their marketing activities accurate or are some retailers engaging in mis-selling practices?

- At the industrial market level there is limited competition, but the fact that AGL has retained dominance in the small consumer market is indicative that there is limited competition at this level as well. The work in section 6 highlights that for retailers to operate competitively in the wholesale market, they must source some of their generation from their competitor retailer. That there is limited competition in the wholesale market supports the view that retail competition is limited and likely to get less. It should be noted that until the sale of TIPS to AGL, there was a higher degree of competition at the wholesale market level, but this has now disappeared.

(4) Are the price outcomes and service offerings consistent with what may be expected in an effectively competitive market? For example, are the market contract prices reflective of the efficient cost of supply and are the offers made to customers consistent with their needs and expectations?

- No, on the contrary there is price gouging and aggressive exercise of market power at the wholesale market level.

- Large industrial consumers are either accepting excessively high retail offers, or electing to take spot market risk. If industrial customers have little or **no** countervailing power then it is unlikely that small consumers have any such power. This implies that consumers in SA are price takers.

(5) What roles do retail price regulation and the associated energy-specific safety net arrangements currently play in assisting energy customers and what impact have they had on competitive market outcomes?

- The summer of 2008 experiences show unbridled price escalations. Removal of retail price caps, and associated regulation will expose small business, residential and low income consumers to potential price gouging.
- Retail price regulation has meant that the economic rents are largely captured at the Generation Sector, with subsequent flow-on to the retail market when price caps are adjusted.

(6) Are the benefits of full retail competition equally accessible by all classes of customers, or are there some customers who face more limited opportunities to participate in the competitive market? For example, are there customers who, because of personal or social circumstances, or as the result of the structure of the market, do not have the same opportunity to access competitive energy offers as other customers?

- There is little or no competitive market for any class of consumer.
- If large industrial customers are unable to negotiate competitive retail contracts[26], there is even less scope for small businesses or residential customers to achieve competitive outcomes.

Comments on the AEMC Criteria:-

1. independent rivalry within the market

- There is limited independent rivalry, as AGL, Origin and TRUenergy have linkages to their own generation. Other retailers are dependent on any residual capacity for hedge contracts or swaps, from the other generators, but this residual capacity is limited, forcing “non-gentailer” retailers to the spot market with its inherent risks.

[26] A number of large industrial users have had to move to the spot market as retail offerings were uncompetitive

- Retail rivalry is "at the margin" – the real potential for competition (and cost) is at the generation sector, but this is constrained by the current wholesale market structure in SA.

2. the ability of suppliers to enter the market

- There is limited ability of new entrants to enter the market because of the SA market structure which demonstrates (and therefore the consequences of):-

  - high price volatility and high risk
  - high cost of hedging and financial instruments for risk mitigation
  - "non-gentailer" retailers have limited hope of being a new entrant
  - current small retailers are able to be held to 'ransom' by the dominant "gentailer" AGL

3. the exercise of market choice by customers

- There is little choice for consumers, other than at the periphery which makes churn rates (based on non-price factors) rather suspect as a "competition" indicator.
- Residential (and small business including farm) customers in regional and rural SA do not experience effective competition, due to a lack of effective retailer choice.
- We observe that households in outer suburban Adelaide, particularly lower socio-economic suburbs, do not experience effective competition for electricity or gas as retailers are unlikely to make offers that are understood by households in these locations. We observe that retailers are more likely to 'cherry pick' suburbs for offering market contracts, prioritising suburbs with a high proportion of households from the top two income quintiles. These are higher use customers, prioritised for 'strategic marketing.'

4. differentiated products and services

- Limited, and used for "push" selling rather than as a true indicator of competition
- Most residential customers do not request these non-price products and services

5. price and profit margins

- There is price gouging already in the wholesale market and this is flowing to retail offerings to industrial customers and subsequently to smaller customers.
- There is little doubt that the aggressive exercise of market power is profitable. AGL MD Mr Michael Fraser is reported to have "hailed the performance of Torrens Island Power Station to the company's latest half-year, saying it had produced net revenue of $62.2/MWh"[27].

6. customer switching behaviour

- Limited. AGL is the dominant retailer and is able to "out compete" other retailers (especially smaller retailers) through access to its dominant generation business.
- Other "gentailers" maximize revenues through strategic marketing.

Other Comments:

- The AEMC's competition framework is too restricted. The term "market" is seen too narrowly: if the wholesale market (bulk of landed cost of energy) is not competitive, then competition in retail is illusionary – with small margins being fought over and rents easily shifted upstream where there is little/limited competition.

- On the "going forward" concept used by the AEMC it is important to note that the merger of AGL with TIPS has made a significant and detrimental change to the SA market structure and the potential for effective competition

- If the future involves new generation and new retail players, the question is - will there then be competition? We would have to say no, there is likely to be little or no impact as it will be counter-balanced by the growing development of wind power and its reliability concerns, causing potentially lower imports at the critical times when competition is really needed.

- There are also anecdotal concerns about the integrity of 'green' energy products, so we mention this concern about effectiveness of competition in this market segment.

- There are a range of views about the capacity of competition to deliver equitable outcomes, there is a brief discussion about this in **appendix 3**

[27] Nigel Wilson in The Australian "**Watchdog probes AGL over prices"** *March 05, 2008*

Appendix 1.

Capacity to Pay
- Low Income in South Australia

The National Electricity Objective, as stated in the National Electricity Law is:

to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to–

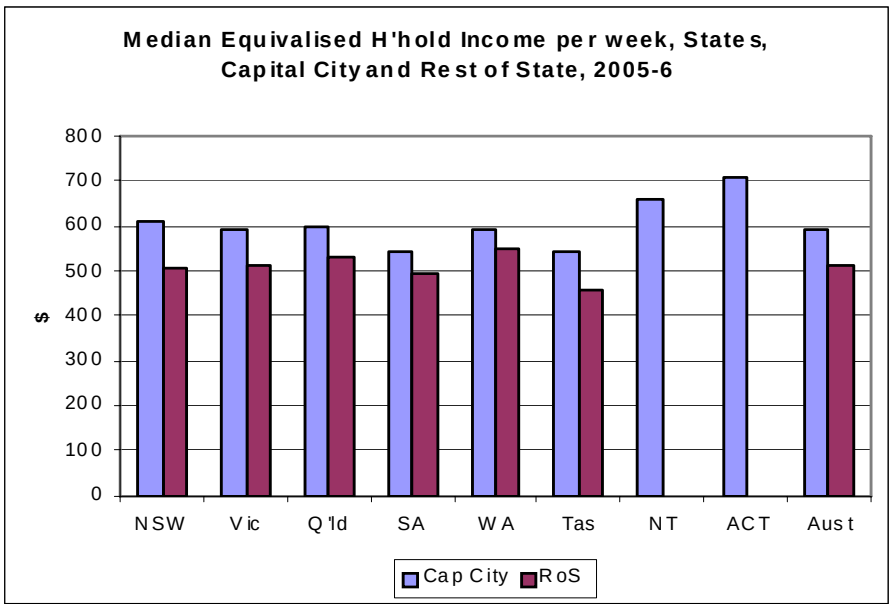
a. price, quality, safety, reliability, and security of supply of electricity; and

b. the reliability, safety and security of the national electricity system.

For the supply (use of) of an essential service, specifically electricity, to be reliable, all households need to be able to afford to purchase an adequate quantum, in other words we consider affordability to be an aspect of reliability and hence competition.

The following graphs show aspects of income and health disadvantage in SA, and are provided as part of the context to the Review of Effectiveness of Retail Energy Competition in SA. We understand that ability of consumers to be able to afford to purchase the energy that they need is a critical element of effective competition. If supply for an essential service is not affordable, there can be no equilibrium between demand and necessary supply, so the market would not be operating optimally and therefore not effectively.

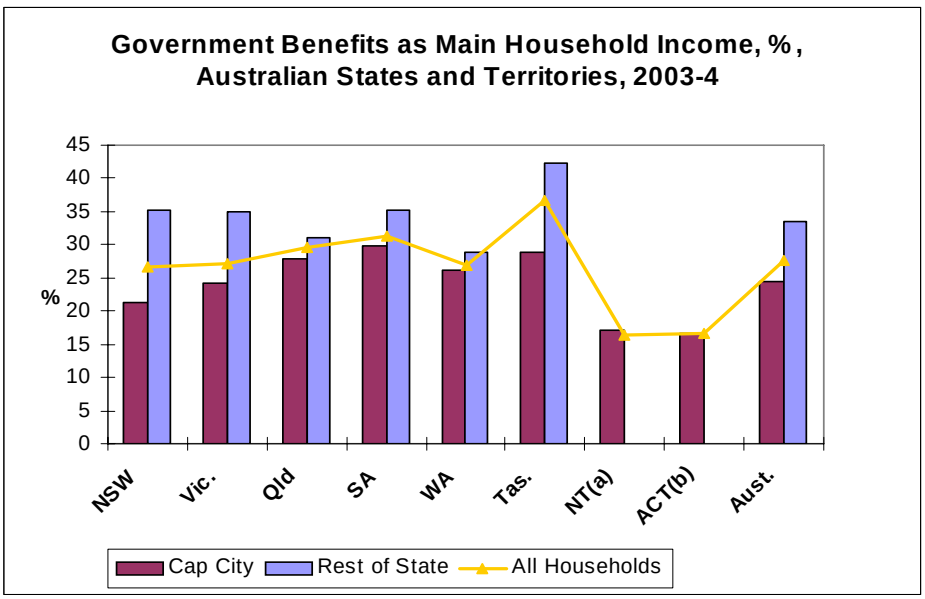
Median Household Equivalised **Income**



Graph 1

This graph shows that median household incomes in South Australia are the lowest of any mainland state

Gov't Benefits Main Income



Graph 2

Graph 2 above, shows that South Australia has the highest percentage of households with Government pensions or benefits as their primary source of Income, nearly a third of all households. While some of these households are aged pensioner households with reasonable asset holdings, a vast majority of these households are very low income households. In general, people living in households dependent on government benefits are likely to spend more time in their own homes than working people and so face higher energy use than people who's energy use is effectively subsidised by their employer

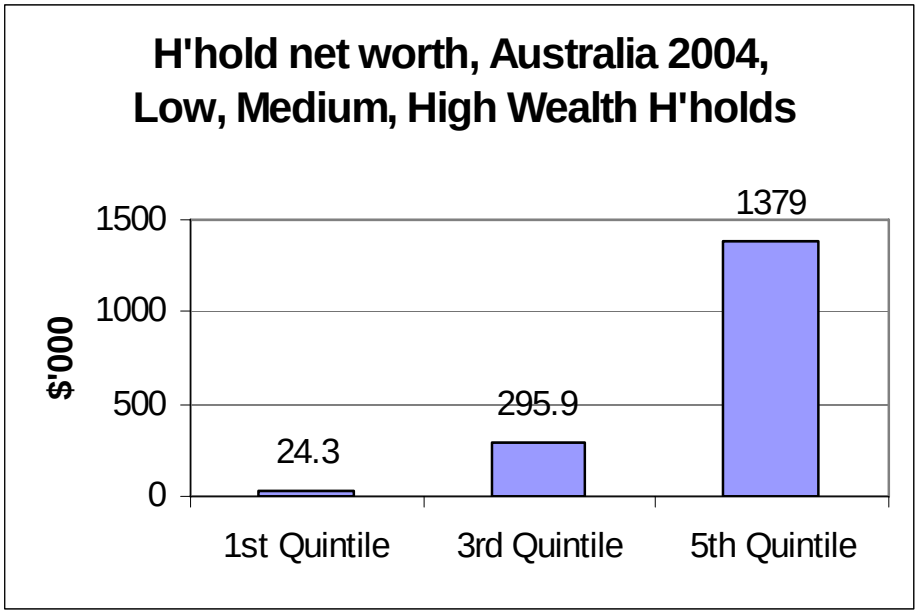
Almost all of the households are on fixed incomes with very limited capacity to adjust to price shocks.

Graph 3 shows that wealth is highly skewed n Australia with the richest 20% of the population having average wealth holdings over 56 times higher than the average wealth holding of the lowest 20% of the population.

The wealth measure is for aggregate household wealth in dollar terms, including housing, superannuation, bank accounts and other assets. Since the average wealth holding for the poorest 20% of households was a total of $24,300 in 2004, it is apparent that these households are renters not housing purchasers, and have minimal financial reserves.

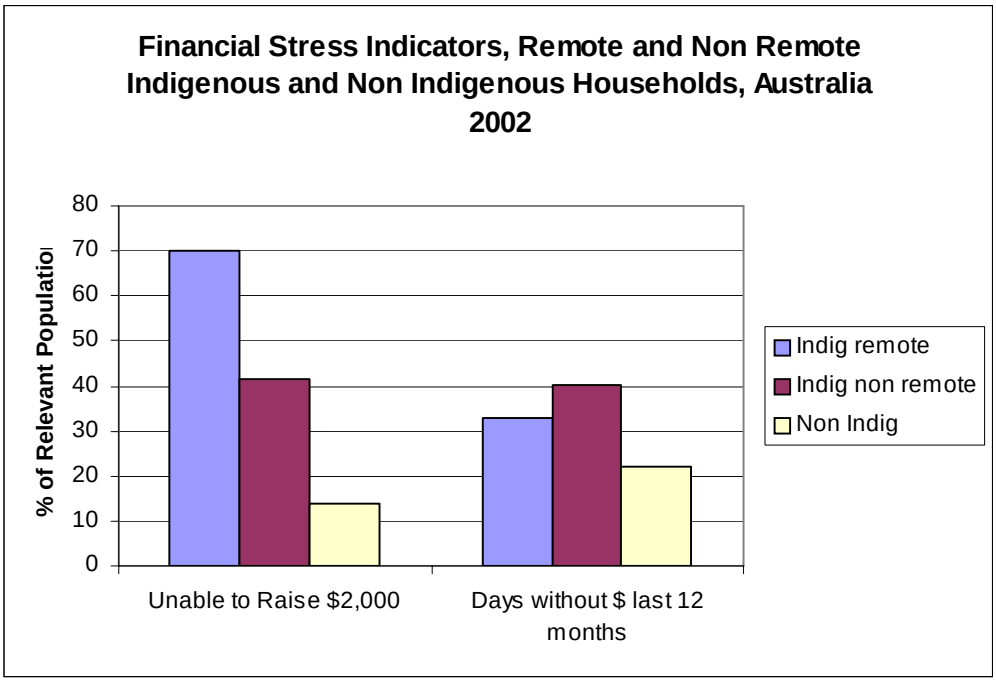
The following graph give an indication of financial pressure on low income households using two measures of 'deprivation'; the ability to raise $2000 in crisis and days without any access to cash over the previous 12 months

Wealth Divide



Graph 3

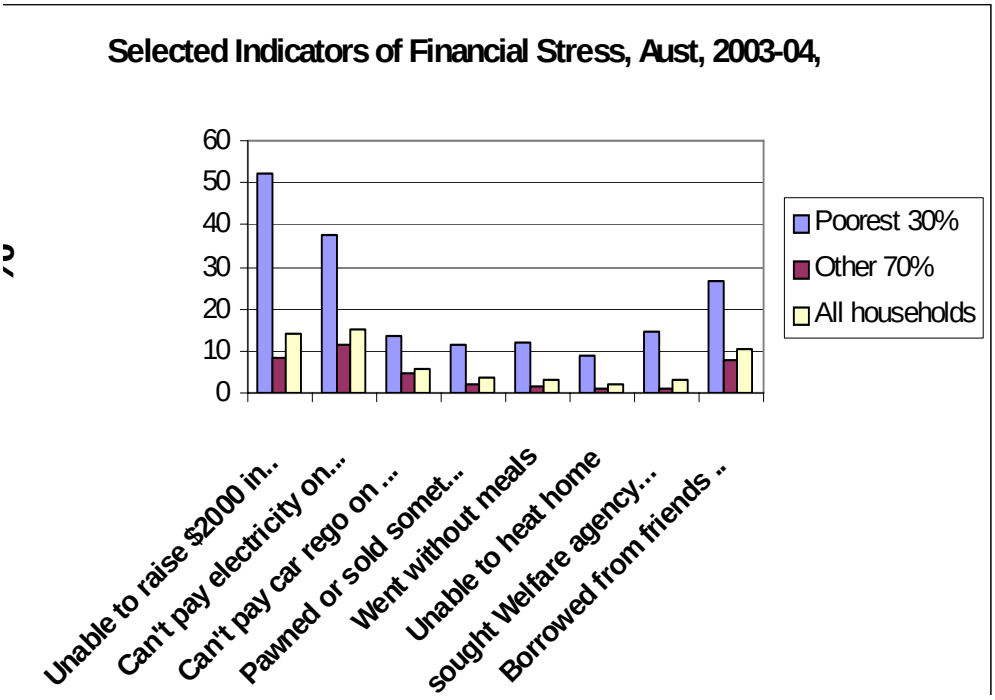
Deprivation



Graph 4

Graph 5 provides selected deprivation measures by income groupings. From graphs 4 and 5, it is evident that indigenous people, particularly in remote communities, are the people most likely to experience deprivation in South Australia. The provision of electricity to these communities comes from local arrangements that are outside the national electricity market (NEM). However, the graph indicates that about 40% of indigenous people in non remote communities, experience deprivation. This suggests to us that particular consideration needs to be given to capacity to pay for indigenous households.

The third observation we make from the graphs is that over 20% of the non indigenous population experienced deprivation to the extent that they had days without cash in the last 12 months. This would suggest that these people are likely to have some difficulty in paying electricity bills. In graph 5 there is evidence that about 15% of all households have difficulty paying electricity bills on time, due to financial stress. Nearly 2 in 5 people in the lowest 30% of the income distribution are unable to pay electricity bills on time. We do not SA specific data for these measures.



Graph 5

The difficulty that some households have in paying electricity bills is reinforced by graph 6, which shows household electricity expenditure as a proportion of average weekly income, by quintile for selected years in Australia.

A further key observation from this graph is that for the poorest 20% of the weekly income distribution, electricity counted for about 7% of expenditure in 2003/4, whereas electricity expenditure was not much more than 1% of weekly income for the richest 20% of households. Indeed, for about half the population, electricity accounts for less than 2½ % of expenditure with useage evidence that energy use is higher by higher income groups.

We deduce from this data that **at least 20% of South Australian households will struggle to pay utility bills because they are on very low incomes**.

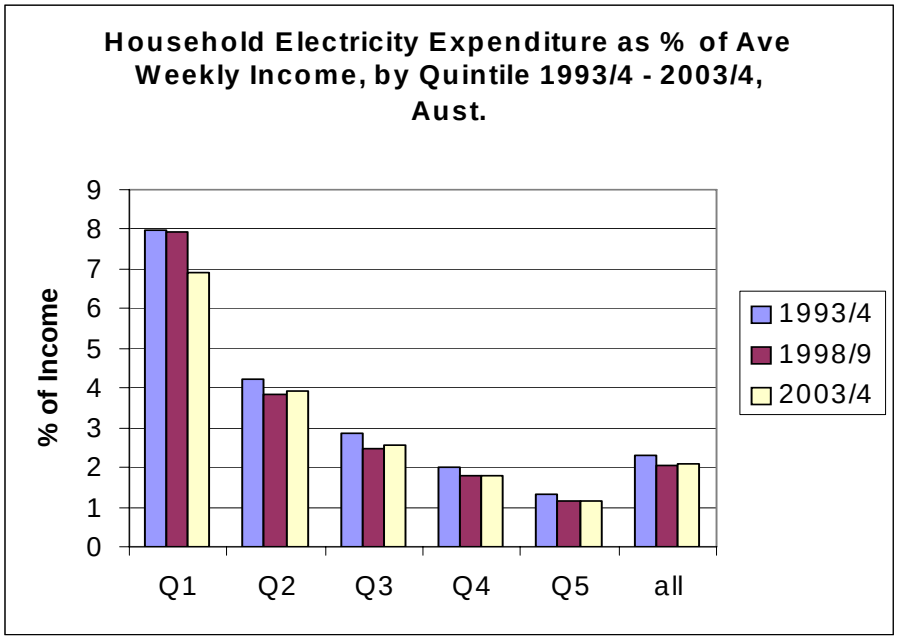
We have not yet been able to obtain more up-to-date data or state specific data to ascertain impacts of FRC electricity price increases on South Australian households.

Graph 6 shows that low income households pay significantly more for electricity, as a percentage of income, than higher income households, despite using less

electricity. The graph shows a reduction in percentage of income spent by the lowest quintile in 2003/4, compared to 1998/9.

We suggest that the proportion paid on electricity for South Australian households is now likely to be higher since

- 2003/4 data is unlikely to have captured the full effects of the substantial increase in SA electricity bills due to FRC for electricity markets.
- SA household incomes tend to be lower than national averages, see graph 1, while electricity costs tend to be higher.



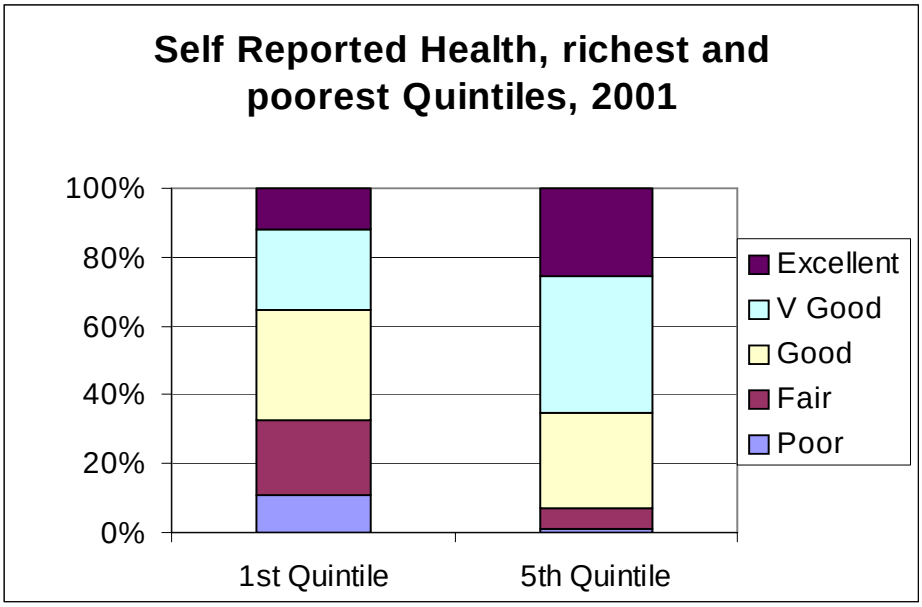
Graph 6, Source ABS

Graph 7 shows a significant relationship between income and health. Poorer people are much more likely to be unhealthy. About a third of all people in the lowest quintile of the income distribution report 'poor' or 'fair' health. For the highest income quintile, the proportion of people reporting 'poor' or 'fair' health is about 5 times lower than for poor people.

People with poor health are more likely to need to spend more money on electricity, particularly for heating than higher income people.

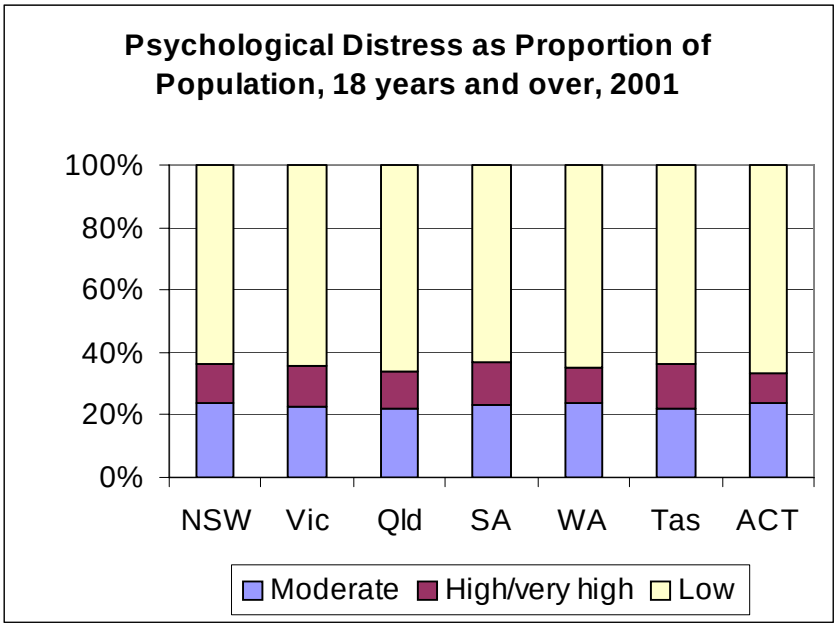
Graph 8 shows that nearly 40% of South Australians report 'Moderate,' 'High' or 'Very High' levels of psychological distress, an indicator of mental health problems. While we are not aware of any clear research relating to the relationship between energy use and mental health, our own anecdotal evidence suggests that, as for physical illness, the relationship is highly likely to be one where higher levels of mental health correlate with higher levels of energy use.

Health and Income



Graph 7

Mental Health



Graph 8

Graph

Note: All data reported is from ABS, unless otherwise stated.

Fuel Poverty in South Australia.

For Uniting*Care* Wesley this data begs the question as to whether there is a significant fuel poverty issue in South Australia?

The notion of fuel poverty has not been as well-developed in Australia as it has in Europe, particularly the United Kingdom, and also Canada.

Allan Asher, Chief Executive of Energywatch, UK defined fuel poverty as follows:

'The rough and ready definition of fuel poverty is someone who spends more than 10% of their income on keeping themselves warm. However fuel poverty is not just about low incomes. It is part of a complex picture, linked to multiple deprivation, unaffordable fuel prices and poor housing stock characterised by inadequate insulation and inefficient heating systems.'

In South Australia, the English focus on the capacity of households to keep themselves warm, is less applicable. However, the notion that a household spending more than 10% of its income on energy as being a household experiencing fuel poverty is useful.

We have no doubt that there are a number of households in South Australia where fuel costs, electricity + gas + petrol, would certainly exceed 10% of household income, particularly given that household incomes in South Australia are a lot less than for other Australian mainland states and territories.

While we are unable to accurately quantify levels of fuel poverty in South Australia, we believe it is important that price determinations for electricity are made with recognition that fuel poverty is a reality for some South Australia households. Uniting*Care* Wesley suspects, from demand for its services from low income households, that levels of fuel poverty are likely to grow in South Australia during the coming years.

It is a public policy imperative that adequate amounts of energy are available to all households, particularly low income households, at an affordable price.

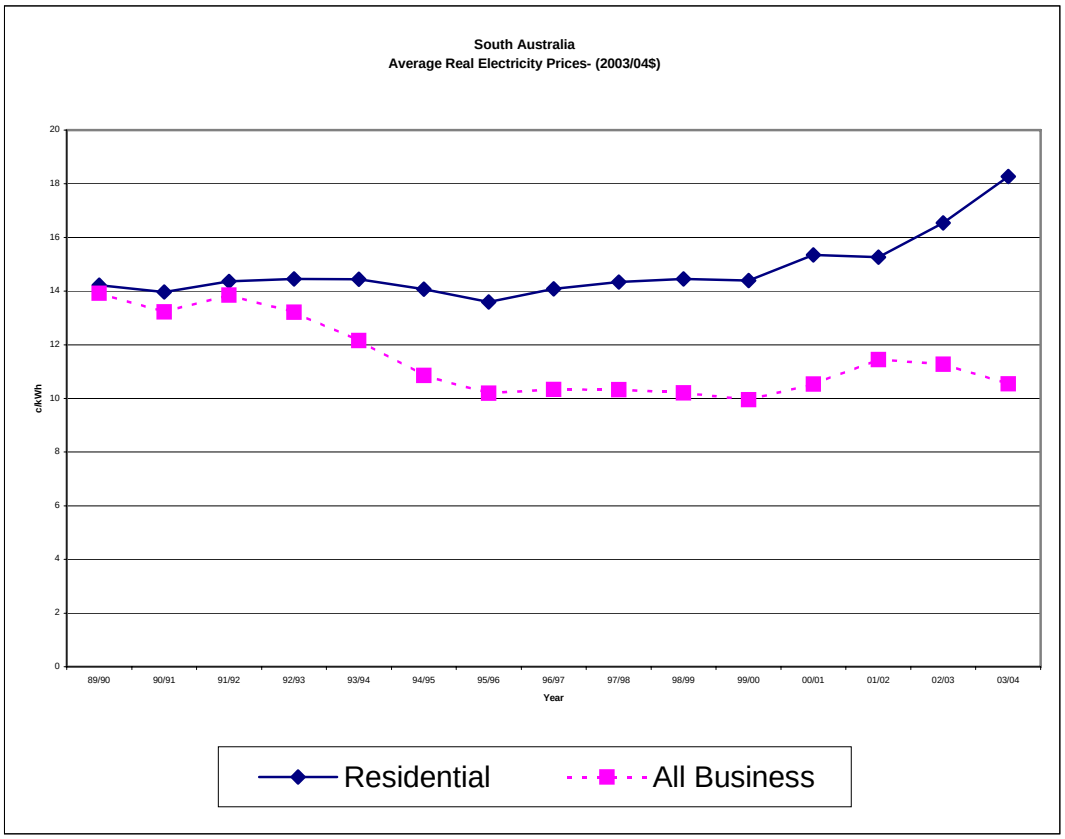
Appendix 2

Impacts of Electricity FRC on Households in SA

In considering the effectiveness of competition in South Australian energy markets, it is important to reflect on the introduction of FRC (Full Retail Contestability) and to learn lessons from that experience. Most of this appendix is based on a paper prepared by UnitingCare Wesley in 2004.

The introduction of FRC for electricity in South Australia led to a significant rise in prices for households with domestic energy bills rising by between 25% and 30%. These price rises were exacerbated by high levels of ancillary fees and charges (disconnection and reconnection fees, meter reading fees, late payment fees, etc) and for bills for some customers being sent out late so that customers were being billed for four or even five months instead of the usual quarterly bill. The 2002-07 Price Path consideration dealt with these issues and we know that the greatest impact of these price shocks have passed, though low income people coming to Uniting*Care* Wesley services still report considerable pressure in paying electricity bills.

The following graph, taken from ESCOSA data demonstrates the significant price rise for residential customers resulting from the introduction of FRC (Full Retail Contestability).



Graph 1, Source ESCOSA, annual market performance reports

South Australian consumers were assured by government and industry that the introduction of FRC into South Australian energy markets, starting with electricity, would produce more efficient markets resulting in cheaper electricity bills.
Instead, there was an increase in electricity bills of over 25% for average residential customers. FRC was a disaster for SA residential consumers!
In analysing trends in domestic utilities prices in South Australia from July 2000 July 2004, consulting firm Deloitte Touche Tohmatsu reported the following:

*"the fixed Supply access charge for domestic light and Power has increased by **32.4%** since July 2000, the largest increase was in July 2003 (25.4%)*

*And off-peak controlled low Supply access charge has increased by **93.1%** over the five-year period with a significant increase occurring in July 2003 (144.4%). The Supply charge then decreased the following year by 23.1%*

A number of miscellaneous charges have also increased since July 2000:

- *the standard application fee has increased by **37.5%***
- *the connection fee for new customer connections was free until 2002 the fee was reintroduced in July 2003 and increased by **7.2%** in July 2004*
- *the after hours connection fee has increased **348.1%** in the five-year period*
- *a special meter reading charge has increased by **40.4%***
- *the combined disconnection and reconnection fee (business hours) associated with non-payment has increased by **38.7%***
- *delayed payment fee has increased **139.8%** in the five-year period*
- *the increase in the meter testing for single phase and double phase increased by **89.6% and 47.9%** respectively."*

We have added the emphasis to the percentage increases above, to highlight that not only did increasing competition increase prices for each kilowatt hour of electricity used, retailers took the opportunity to dramatically increase ancillary charges, a majority of which we believe were levied to low income households – the very households struggling most to cope with the increased supply charges.

Another significant change was the reduction in average real prices for business, while prices for residential customers have increased. This is a significant development and is one of the planned outcomes from the application of competition policy to the energy market.

Impact of High Prices (From FRC) for Lower Income Households:
Research by Professor Richardson and Peter Travers from National Institute of Labour Studies showed that 58.7% of the bottom half of South Australian's income distribution are households spending 4% or more of their disposable income on power. About 4.7% of all SA households spent 9% or more of their disposable income on energy, this included the poorest households in the State.

Five per cent of the lowest quintile of households reported being unable to heat their home due to financial stress, this is double the rate for the rest of Australia and was taken for the General Social survey 2002.

Their analysis was based on the ABS household expenditure survey completed in 1998-9, and while this was the most recent data set, the figures predated the significant increases in domestic electricity charges associated with FRC.)

A couple of attempts were made during 2004 to assess the impacts of rising electricity prices on low income households:

- Powering Poverty, by Western Region Energy Action Group
- Survey of Financial counselling clients by David Horton, for Uniting*Care* Wesley

Powering Poverty was a study based on a 12 in-depth interviews with low income households that was conducted during late 2003. Key findings included:

- on average, participants increased their expenditure on electricity from 2000 to 2003 five $312 60. In this. Electricity costs increased by an average of 43.16%
- average household expenditure for the participants was 6% of total household income, but this. Significantly
- all participants reported that they could not afford to heat or cool their home to a comfortable level
- 5 of the 12 participants reported that they went without meals due to shortage of money.

Student, David Horton and UnitingCare Wesley Financial Counsellors surveyed 30 financial counselling clients during July / August 2004, Key findings included:

- 83% reported that high electricity prices are having an adverse impact on their finances
- 77% of those surveyed had electricity bills that are considered to be low, that is less than $350 a quarter
- in response to the question "what of the following items have you reduce spending on due to electricity Price increases?" - responses included:

Food	50%
Clothing	87%
Holidays	83%
Movies	80%
Sport and culture	80%
Telephone	53%

We also note that a vast majority of low income households pay utility bills and rent as their priorities, ahead of food and medications. So for some low income households, paying utility bills means hunger.

These surveys reinforced observations from welfare and community service organisations that rising energy costs in particular and rising utility charges in general had a significant impact on low income and vulnerable households. Uniting*Care* Wesley said in 2004 "that before further moves are made to change energy markets, there needs to be much better understanding of the impacts of the significant recent changes that have been made to the structure of energy markets. For example policymakers and the broader community need a much better understanding of fuel driven poverty."

While the worst of the FRC lead electricity price rise crisis has passed, and we recognise that regulation (through ESCOSA distribution price determination) has reduced real prices for residential customers for electricity over the last couple of years, compared to where they would otherwise have been; we are still

concerned that a significant number of low income South Australian households struggle to be able to afford the essential service of electricity.

Note that data reported in Appendix 1 suggests higher numbers of households now struggle to afford their electricity bills, compared to the earlier data reported in this appendix. The higher numbers of households struggling to pay electricity bills now suggests that energy stress levels are growing in the SA community.

TRUST

We recognise that competition was imposed on the South Australian market, through FRC, but this does not mean that consumers are necessarily supportive of the approach or trusted the market.

The Australian Survey on Social Attitudes, (AuSSA), in its first survey in 2003 asked respondents about their preferred ownership of major services. The results for the electricity market were:

- 60% of respondents preferred public ownership,
- 31% preferred a mix of public and private ownership
- 6% favoured a totally private market and
- 4% couldn't choose.

We are not aware of any subsequent surveys of preferred ownership for energy provision.

We raise this issue of trust, not out of some myopic view that all was great when energy supply was a government responsibility. Rather we wish to highlight the experience of a large number of SA consumers that an increased level of marketisation of the electricity market has failed to deliver the promised outcomes, particularly cheaper prices. (We also recognise that such 'promises' were political rather than market based and were not necessarily appropriate at the time.) This does not alter the fact that residential consumers were expecting some reduction in electricity prices from FRC and in reality were confronted with major increases and disorganised retailers, creating considerable financial stress.

We opine that these factors combined to reduce levels of consumer trust in the electricity market and in the retailers in particular. Retailers are the 'visible face' of the electricity market for residential customers. We also suggest that historically the two state owned energy companies, the Electricity Trust of South Australia (ETSA) and the South Australian gas Company (SAGasCo), were very well regarded members of the South Australian community. These companies were highly regarded and trusted implicitly by South Australians.

We recognise that there have been major cultural and attitudinal shifts over the last 2-3 decades. We also recognise that for energy markets, and the rest of the economy, there is no going back.

However, we are satisfied that in considering the question of effectiveness of competition in SA energy markets, the question of trust of the markets and energy companies is a question that warrants consideration. If there is not widespread trust, by customers, in the market then there is market failure. If there is market failure, the market cannot operate effectively and so there is not effective competition.

Appendix 3. Charter of Principles for Energy Supply

The application of competition principles and the creation of markets for electricity and gas have reshaped these industries, especially their relationships with governments and consumers.

When beginning these processes of change, Federal, State and Territory governments mandated the following:

" the national electricity market objective is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system."

The Roundtable[28] supports this objective but to recognise the industries importance and complexity suggests the use of the following caveat:

1. In meeting the objective of the national electricity market, all market participants (including governments and regulators) shall have regard to the essential nature of the services, the pecuniary interests of industry, diversity amongst consumers, and long-term environmental sustainability.
2. Energy should be generated, distributed and consumed in a sustainable manner, to meet the needs of consumers whilst affording effective protection of the environment and the prudent use of natural resources. Demand should be minimised and the use of renewable energy maximised to conserve and enhance environmental and social assets.

Electricity is an essential domestic service

Electricity supports fundamental human needs including safe food (storage, preparation) and safe shelter (hygiene, lighting, temperature control).
Electricity supports equipment that is critical to well-being and independence (health, communication).
Beyond these fundamentals, electricity supports community engagement and family life (social interactions, employment, education).
Except in rare and exceptional circumstances, a regular connection to electricity supply is not discretionary or optional. In most instances there is no alternative to electricity.

A reliable, safe, affordable supply of electricity is a right rather than a privilege and access must be guaranteed as far as reasonably possible.

[28] The national consumers Roundtable on Energy is an informal coalition of advocates for energy consumers. The Roundtable is interested mostly in households and small business.

Charter of Principles for Energy Supply

Energy supply should be:

SUSTAINABLE

Sustainability - Energy supplies should be derived from a secure mix of sources, including renewable energy sources. Energy should be produced, distributed and consumed in an efficient manner so that energy demand is minimised and energy supply provides beneficial social and environmental outcomes.

ACCESSIBLE

Equity - Energy services should be provided to all people equitably so that pricing and service standards do not discriminate against people according to their geographic location.

AFFORDABLE

Affordability - Energy should be affordable for all consumers. Energy supply should not be denied to any consumer on the basis of financial hardship or other circumstances of vulnerability.

APPROPRIATE

- Quality - Energy supply should be of a high-quality appropriate to the intended purpose at its point of consumption.
- Safety - Energy consumers should be protected from any dangers in the provision of energy services.
- Reliability - Energy supply should be reliable and aim to ensure an uninterrupted delivery of supply, as far as practicably possible

ACCOUNTABLE

- Respect - Energy services should be delivered in a way that respects all consumers and their diversity of needs and capacity to participate in an energy market.
- Information - Energy consumers should have access to information about energy services that empowers them to make informed choices and to negotiate their interests with service providers.
- Rights - Energy consumers have rights to use energy for ensuring adequate standards of living and social participation. These rights are recognised in international human rights standards.
- Privacy - Information about consumers held by service providers should be treated with care and shared only with prior permission.
- Redress - Energy consumers should have access to free, fair and independence services for complaints resolution.
- Representation - Energy consumers ought to be supported to have their interests represented and be able to participate in consultation and decision-making processes.

Appendix 4
Markets and Inequality

In reviewing the Effectiveness of Competition of SA energy markets, the AEMC is starting with the assumption that an economically competitive market will produce the best, most efficient, outcomes for (all) consumers.

Uniting*Care* Wesley is not convinced by this approach, particularly because markets do not deliver fairness. The following article posits that the application of contemporary market economics must create inequality and indeed, growing levels of inequality.

We raise this important perspective because it is central to the purpose of regulation and the primary outcomes of the review are about the extent and type of regulatory instruments that are most likely to be effective.

The mathematics of inequality

Sep 20, Australian Financial review Magazine
Mark Buchanan, New Statesman

Why is wealth so unevenly distributed among individuals? This is perhaps the most controversial and inflammatory of all topics in economics. As JK Galbraith noted, the attempt to explain and rationalise inequality "has commanded some of the greatest, or in any case some of the most ingenious, talent in the economics profession".

We all know that a few people are very rich and that most of us have far less. But inequality in the distribution of wealth has a surprisingly universal character. You might expect the distribution to vary widely from country to country, depending not only on politics and culture but also, for example, on whether a nation relies on agriculture or heavy industry. Towards the end of the 19th century, however, an Italian engineer-turned-economist named Vilfredo Pareto discovered a pattern in the distribution of wealth that appears to be every bit as universal as the laws of thermodynamics or chemistry.

Suppose that, in Britain, China, the US or any other country, you count the number of people worth, say, $10,000. Suppose you then count the number worth $20,000, $30,000 and so on, and finally plot the results on a graph. You would find, as Pareto did, many individuals at the poorer end of the scale and progressively fewer at the wealthy end. This is hardly surprising. But Pareto discovered that the numbers dwindle in a very special way: towards the wealthy end, each time you double the amount of wealth, the number of people falls by a constant factor.

Big deal? It is. Mathematically, a "Pareto distribution" implies that a small fraction of the wealthiest people always possess a lion's share of a country's riches. It is quite easy to imagine a country where the bulk of people in the middle of the distribution would own

most of the wealth. But that is never so. In the US, something approaching 80 per cent of the wealth is held by 20 per cent of the people, and the numbers are similar in Chile, Bolivia, Japan, South Africa and the nations of western Europe.

It may be 10 per cent owning 90 per cent, 5 per cent owning 85 per cent, or 3 per cent owning 96 per cent, but in all cases, wealth seems to migrate naturally into the hands of the few. Indeed, although good data are sadly lacking, studies in the mid-1970s, based on interviews with Soviet emigrants, suggested that wealth inequality in the Soviet Union was then comparable to that in Britain.

What causes this striking regularity across nations? The question is all the more urgent now that inequality seems to be growing. In the US, according to the economist Paul Krugman: "The standard of living of the poorest 10 per cent of American families is significantly lower today than it was a generation ago. Families in the middle are, at best, slightly better off. Only the wealthiest 20 per cent of Americans have achieved income growth anything like the rates nearly everyone experienced between the 1940s and early 1970s. Meanwhile the income of families high in the distribution has risen dramatically, with something like a doubling of real incomes of the top 1 per cent."

Something similar is taking place on the global stage. Globalisation is frequently touted - especially by those with vested economic interests, such as multinational corporations and investment banks - as a process that will inevitably help the poor of the world. To be sure, greater technological and economic global integration ought to have the potential to do so

What is the origin of these distinct but seemingly related trends: the greater inequality within nations (which applies to Britain, and many other countries, especially in eastern Europe, as well as to the US) and the greater inequality between them? We can blame tax cuts, liberalisation of capital markets, new communication technologies, the policies of the International Monetary Fund and so on. But might there be a general science that could illuminate the basic forces that lead to wealth inequity?

Conventional economic theory has never before managed to explain the origin of Pareto's universal pattern. But two physicists, Jean-Philippe Bouchaud and Marc Mezard of the University of Paris, venturing across the lines between academic disciplines, have recently done so.

Forget for the moment about ingenuity, intelligence, entrepreneurial skills and other factors that might influence an individual's economic destiny. Instead, take a step into the abstract, think of an economy as a network of interacting people, and focus on how wealth flows about in this network.

It will flow - causing individuals' wealth to go up or down - in one of two fundamental ways. The first is through the bread-and-butter transactions of our daily economic lives: your employer pays you for your work; you buy groceries; you build a fence to keep in the dog; you take a holiday. The second is through rises and falls in asset values: houses

and shares, for example. The physicists have shown how the interplay of these two basic forces largely determines how wealth is distributed.

Bouchaud and Mezard formulated a set of equations that could follow wealth as it shifts from person to person, and as each person makes random gains or losses from his or her investments. They also included one further feature to reflect how the value of wealth is relative. A poor single parent might face near-ruin over the loss of a $50 note; in contrast, a very rich person wouldn't flinch after losing a few thousand. In other words, the value of a little more or less wealth depends on how much one already has. This implies that when it comes to investing, wealthy people will tend to invest proportionally more than the less wealthy.

The equations that capture these basic economic processes are quite simple. However, there is a catch.

For a network of many people - say, a thousand or more - the number of equations is similarly large. A model of this sort, therefore, lies well beyond anyone's mathematical abilities to construct (and this explains why it has not appeared in conventional economics). But the philosopher Daniel Dennett has for good reason called the digital computer "the most important epistemological advance in scientific method since the invention of accurate timekeeping devices". The work of Bouchaud and Mezard falls into a rapidly growing area known as "computational economics", which uses the computer to discover principles of economics that one might otherwise never identify.

Bouchaud and Mezard explored their model in an exhaustive series of simulations. And in every run, they found the same result - after wealth flows around the network for some time, it falls into a steady pattern in which the basic shape of wealth distribution follows the form discovered by Pareto. Indeed, happens even when every person starts with exactly the same amount of money and exactly the same money-making skills.

Why? Transactions between people should spread wealth around. If one person becomes terrifically wealthy, he or she may start businesses, build houses and consume more products; in each case, wealth will tend to flow out to others in the network. Likewise, if one person becomes terrifically poor, less wealth will flow through links going away from him, as he will tend to purchase fewer products. Overall, the flow of funds along links in the network should wash away wealth disparities.

But it seems that this washing-out effect never manages to gain hold, because the random returns on investment drive a counterbalancing "rich-get-richer" phenomenon. Even if everyone starts out equally, and they remain equally adept at choosing investments, differences in investment luck will cause some people to accumulate more wealth than others. Those who are lucky will tend to invest more, and so have a chance to make greater gains still. Hence, a string of positive returns builds a person's wealth not merely by addition but by multiplication, as each subsequent gain grows ever bigger. This is enough, even in a world of equals where returns on investment are entirely random, to stir up huge disparities of wealth in the population.

This finding suggests that the basic inequality in wealth distribution seen in most societies - and globally as well, among nations - may have little to do with differences in the backgrounds and talents of individuals or countries. Rather, the disparity appears as a law of economic life that emerges naturally as an organisational feature of a network.

Does this mean that it is impossible to mitigate inequities in wealth?

Pareto found (as many other researchers found later) that the basic mathematical form of wealth distribution is always the same. You find that, each time you double the amount of wealth, the number of people having that much falls by a constant factor. This is the pattern that always leads to a small fraction of the wealthy possessing a large fraction of everything.

Nevertheless, the "constant factor" can vary: there is a huge difference between the richest 5 per cent owning 40 per cent of the wealth, and their owning 95 per cent. An additional strength of the Bouchaud-Mezard network model is that it shows how this degree of inequity can be altered.

The physicists found two general rules. First, the greater the volume of wealth flowing through the economy - the greater the "vigour" of trading, if you will - then the greater the equality. Conversely, the more volatile the investment returns, the greater the inequity. This has some curious practical implications, some obvious and some not so obvious.

Take taxes, for instance. The model confirms the assumption that income taxes will tend to erode differences in wealth, as long as those taxes are redistributed across the society in a more or less equal way. After all, taxation represents the artificial addition of extra transactional links into the network, along which wealth can flow from the rich towards the poor. Similarly, a rise in capital gains taxes will tend to ameliorate disparities in wealth, both by discouraging speculation and by decreasing the returns from it.

On the other hand, the model suggests that sales taxes, even those targeted at luxury goods, might well exaggerate differences in wealth by leading to fewer sales (thus reducing the number of transactional links) and through encouraging people to invest more of their money.

The model also offers an excellent test of some arguments that politicians commonly use. For example, the pro-free market policies of Britain and the US in the 1980s and 1990s were defended on the grounds that wealth would "trickle down" to the poor. Everything was done to encourage investment activity, regardless of the risks involved. As we know, the wealth did not trickle down and wealth in both countries is now significantly less equally distributed than it was three decades ago. Under the network model, this is just what one would expect - a dramatic increase in investment activity, unmatched by measures to boost the flow of funds between people (such as higher taxes), ought to kick up an increase in wealth inequality.

What about globalisation? Our model suggests that, as international trade grows, it should create a better balance between richer and poorer nations: Western corporations setting up manufacturing plants in developing nations and exporting their computing and accounting to places such as India and the Philippines should help wealth flow in to these countries. But, as Stiglitz notes, Western countries have pushed poor nations to eliminate trade barriers, while keeping up their own barriers, thus ensuring that they garner a disproportionate share of the benefits. As the Bouchaud-Mezard model illustrates, free trade could be a good thing for everyone, but only if it enables wealth to flow in both directions without bias.

If we go back to the model, it reveals another, rather alarming prospect. Bouchaud and Mezard found that if the volatility of investment returns becomes sufficiently great, the differences in wealth it churns up can completely overwhelm the natural diffusion of wealth generated by transactions. In such a case, an economy - whether within one nation, or across the globe - can undergo a transition wherein its wealth, instead of being held by a small minority, condenses into the pockets of a mere handful of super-rich "robber barons". Some countries, particularly developing nations, may already be in this state. It has been estimated, for example, that the richest 40 people in Mexico own nearly 30 per cent of the wealth.

It could also be that many societies went through this phase in the past.

In Russia, following the collapse of the USSR, wealth has become spectacularly concentrated; inequality there is dramatically higher than in any country in the West. The model would suggest that both the increased volatility of investment and lack of opportunities for wealth redistribution might be at work. In the social vacuum created by the end of the Soviet era, economic activity is less restricted than in the West, as there are few regulations to protect the environment or to provide safety for workers. This not only leads to pollution and human exploitation, but also generates extraordinary profits for a few companies (the politically well-connected, especially; a popular pun in Russia equates privatisation with the "grabbing of state assets"). Economists have also pointed out that Russia has been slow to implement income taxes that would help to redistribute wealth.

The Bouchaud-Mezard model is not the last word in explaining the distribution of wealth, or how best to manage it. But it offers basic lessons. Though wealth inequity may indeed be inevitable, its degree can be adjusted. With laws to protect the environment and workers' rights, free trade and globalisation should be forces for good, offering better economic opportunity for all. But we will do this only if global integration is carried out sensibly, carefully and, most important of all, honestly.

Mark Buchanan is the author, most recently, of *Small World: Uncovering Nature's Hidden Networks* (Weidenfeld & Nicolson, $55).