

# “ENERGY MARKET REFORM IN WA – A PROGRESS REPORT”

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## INTRODUCTION

In December last year, the Economic Regulation Authority (ERA) publically released its second Annual Wholesale Electricity Market Report for the Minister for Energy (Report) – copies of the Report are available on the ERA's website. Overall, the ERA found the market to be performing well.

There is currently significant debate taking place in WA regarding proposals for further reform of the electricity industry. Given this, it is an appropriate time to look at what progress we have made, what are the current challenges/opportunities/concerns or suggestions and finally, what are the further reforms that are needed.

I need to begin by issuing the usual disclaimer. The views I express, unless they relate directly to the Report, are mine and are not necessarily the views of the ERA.

### What Progress Has Been Made

At least annually, the ERA is required to present a report to the Minister for Energy on the wholesale electricity market (WEM). The most recent 106 page Report was presented to the Minister in November and released to the public in December last year. Preparation of the Report began in April 2008 and involved extensive discussions with key stakeholders, the release of a Discussion Paper in June, public submissions on the Discussion Paper and a detailed analysis of market data supplied by the Independent Market Operator (IMO). The ERA was assisted in the preparation of the Report by Frontier Economics.

While the WEM is a relatively young market (since September 2006), and recognizing that the WEM has been designed to take account of the concentrated industry structure in WA and therefore a competitive structure will take time to evolve, the overall conclusion of the ERA was that the market appears to be performing well. The Report noted that:

- New generation participants have entered the market with the result that the share of generation capacity that is provided by Verve Energy will fall from around 77 per cent in 2007/08 to around 60 per cent in 2010/11;
- The market has attracted strong interest from investors in new generation with 699 MW of new generation capacity in service and over 1,100 MW of additional independent generation under construction;

(I would also add my own view that the new generation that has been added is not necessarily that which would have been expected under the old integrated Western Power structure. That is, there has been new, innovative and financially competitive ways of increasing the State's generation capacity. This is the advantage of a competitive environment.)

- Outcomes indicate that, at least until the Varanus Island incident, prices have tended to decline and become less volatile in both the Short Term Energy Market (STEM) and the balancing market;
- Outcomes indicate that prices in the STEM and the balancing market have provided useful signals to market participants, with prices responding to scarcity in the market;

### Short Term Issues

The Report does identify a number of short term issues affecting the performance of the market in meeting its objectives and makes a number of recommendations for change which the ERA believes could be dealt with through the existing WEM processes, including the

Rule change process. These largely deal with issues relating to the connection of generators to the Western Power wires network but also call for greater transparency of System Management to ensure its actual and perceived independence from the networks business and finally, that wind energy should pay for the costs it imposes on the power system on a causer pays basis.

The last point should apply to all types of energy generation but there are particular aspects with respect to wind energy which are of concern. This goes to the impact of wind on the capacity and reliability of the energy system. These issues (including the basis of the appropriate capacity payment for wind generators) are currently being considered by a joint group of the IMO, the Office of Energy (OOE) and System Management. The ERA will monitor the outcomes of those considerations and provide comment in its next report to the Minister for Energy.

## **Future Road Map**

The ERA also identified a number of more fundamental market design issues that will need to be considered over the medium and long term as the market continues to evolve. Given the time constraints today, the issues that the ERA suggested needed to be resolved can be read in the Report. It was suggested that there is a need for a road map to be developed and that the development of that agenda for the future should be led by the OOE (as the key policy body) but it should consult widely with all stakeholders including the IMO and the ERA.

The Report suggests two very important issues that need to be kept in mind when looking at future changes. First, and perhaps most important, the terms of reference for the road map must specify the fundamental requirement for full cost reflectivity to be included in any market (re)design. One of the drivers behind reform of energy markets in WA was to remove cross subsidies and this should remain a key driver going forward. Second, given the size of the WA market, any proposals for change should be subjected to a thorough cost/benefit analysis. We need to be confident that the benefits of any proposed change will outweigh the costs.

## **Broader Structural and Regulatory Issues**

The Report also commented on a number of broader actual or potential policy settings which could have a substantial impact on the ability of the WEM to deliver economically efficient outcomes into the future. In particular, the ERA referred to:

- Level of Regulated Retail Tariffs.

Regulated retail tariffs in the South West Interconnected System (SWIS) are currently set at levels that are well below costs. In January, the OOE released its Final Recommendation Report into a Review of Electricity Tariff Arrangements. For residential tariffs, it recommended increases of 52 per cent in 2009/10, 26 per cent in 2010/11 and 13 per cent in 2011/12. However, the timetable for tariff adjustments to reach cost-reflectivity remains unclear.

In the absence of cost-reflective tariffs, retailers will not be able to compete with Synergy for those customers who have the option of remaining on the regulated tariff (those consuming less than 160 MWh per annum noting also that those who consume less than 50 MWh are currently non-contestable). This will delay the entry and expansion of new retailers and preserve a concentrated retail sector. Fewer retailers buying into the wholesale market will also act to deter new entrant generation. Among other things, this will have adverse implications for the competitiveness, liquidity and efficiency of the WEM.

It is worth commenting briefly on the OOE's Report on forecast retail tariffs. The increases recommended allow for the costs associated with the introduction of the Carbon Pollution Reduction Scheme (CPRS) commencing in 2010/11. It also assumes that the Tariff Equalization Fund (paid to Horizon to fund the uniform tariff policy) will be met from Community Service Obligations (CSO's) (that is, taxpayers) from 2009/10 rather than from network charges (that is, electricity consumers in the SWIS) as has been the case since 2006-07.

The Report also stresses that the " increases are forecasts only, and are based on the impact that network tariffs would have from 2009/10 onwards if the Economic Regulation Authority approves Western Power's Access Arrangement as per its application....". This is a significant if!

The ERA is currently assessing Western Power's access arrangement for the three years beginning in 2009/10. If the ERA were to agree to Western Power's proposals then the increase in network tariffs would be around 40 per cent in the first year followed by around another 30 per cent in each of the following years. As network tariffs comprise around 38 per cent of the retail cost of service, they have a significant effect on retail prices. Without this increase in network charges, the OOE advise that the recommended increases in residential tariffs for the next three years would have been 32 per cent (instead of 52), 15 per cent (instead of 26) and 2 per cent (instead of 13).

The ERA's initial response will be released in its draft decision on Western Power's revised access arrangement, possibly in April. However, without in any way pre-empting the view of the ERA, it is fair to say that the increases recommended by the OOE are likely to be a worse case scenario. There are at least two public reasons for this – there has been a significant change to the cost of debt since the lodgement of the access arrangement and second, the forecasts costs are based on forecasts prepared in March/April last year and the world has changed since then. As part of its consideration of the access arrangement, the ERA is also required by legislation to undertake a thorough review of Western Power's capital and operating expenditure.

- The Introduction of Full Retail Competition (FRC).

FRC is yet to be introduced in WA, with customers in the SWIS consuming 50 MWh per annum or less still only able to be supplied by Synergy. In the absence of a clear timetable for FRC, existing retailers other than Synergy will be unable to achieve critical scale and the entry and expansion of new retailers will be delayed. Both of these outcomes will have adverse implications for the prospect of new entrant generation. As with retail tariffs that are below cost-reflective levels, the absence of FRC will have adverse implications for the competitiveness, liquidity and efficiency of the WEM.

- Market Structure.

Both retail and generating activities within the WEM are currently dominated by state-owned businesses – Synergy and Verve. As is illustrated in the ERA's Report, this concentration has led to a quasi-bilateral monopoly market structure in the WEM. Such a structure is likely to reinforce the barriers to new entry resulting from non-cost reflective tariffs and the absence of FRC.

The ERA in the Report also gave some consideration to suggestions that there would be a benefit from merging Verve and Synergy. At this stage of the energy market's development, the ERA considers that the existence of such a dominant 'gentailer' in the

WEM would destroy effective competitive tension in the market with adverse impacts on efficiency.

While acknowledging the current financial position of Verve (and the need for considerable taxpayer funded CSO's), any relatively small administrative savings made by merging Verve and Synergy would, in the view of the ERA, be quickly more than offset by the disincentive to new and existing players in the market which would remove the competitive tension and inevitably lead to higher prices. The poor financial position of Verve is significantly due to the combination of the vesting contract with Synergy and the lack of cost-reflective retail tariffs. It is this area (perhaps combined with a capital injection needed for replacing outdated or inefficient generation plant) that will provide a solution to Verve's current financial problems.

There is one other point worth making with respect to costs. There have been significant costs incurred in splitting up the original integrated Western Power and in establishing the WEM. However, these costs are "sunk". Although we are yet to see the full potential of retail competition (for the reasons already discussed), we are seeing the benefits of competition in the generation sector. Given the costs have already been incurred, the focus should now be on changes which have the potential to increase the competitive nature of the market and therefore encourage efficient outcomes.

- Greenhouse and Renewable Schemes.

A CPRS puts a price on emissions of CO<sub>2</sub> and other greenhouse gasses. This ensures that investment and operating decisions take account of the negative externality associated with such emissions. Properly designed, this should help promote efficiency.

In contrast, an expanded Mandatory Renewable Energy Target (MRET) deliberately favours certain generation plant technologies over others. In the absence of a CPRS, this maybe a second-best option for reducing greenhouse gasses. However, with the commencement of a CPRS, an expanded MRET is more likely to promote investment in renewable plant (particularly wind in WA) that is not justified by the prevailing cost of carbon and hence is inefficient.

The IMO (in a submission to the Commonwealth Department of Climate Change) has raised a number of concerns about the growth of wind generation in WA including:

- Reduced availability and reliability of generation capacity on the system requiring an increase in reserve plant margin and installation of stand-by generation;
- Short-term fluctuations in the output of intermittent plant, which can lead to system frequency variations and voltage control problems;
- High levels of overnight generation output coinciding with low system demand, which would require output from highly efficient thermal plant to be curtailed;
- Problems associated with network connection and queuing.

As mentioned earlier, the implications of greater wind generation are currently being considered jointly by the IMO, the OOE and System Management and the ERA will be interested in and report on the outcomes. The achievement of an efficient system requires the allocation of costs to those responsible for causing the costs. By the same argument, it would be inappropriate to artificially subsidise one form of generation over another if any externalities are already factored in – the outcome is likely to be higher electricity prices in WA than is warranted.

## Reliability of Supply

One of the questions that has been asked (particularly by the new State Government) concerns how the current market structure guarantees security of supply. A quick but unsatisfactory answer is that nobody can guarantee supply under any system as it is impossible (either practically and/or financially) to build a system which will cope with every possible adverse event whether it be New Orleans hurricanes or Victorian bushfires. However, there are a number of ways in which the current energy market seeks to ensure reliability of supply.

It is the role of the IMO to ensure that there is sufficient generation capacity in WA. The IMO, through the Reserve Capacity Mechanism, seeks to secure/procure sufficient capacity to meet the peak demand and energy needs in the medium term. While there is not the time in this paper to describe the process by which the IMO does this (see [www.imowa.com.au](http://www.imowa.com.au)), it is worth noting that the IMO bases its forecast of peak demand on a one in ten year peak demand event and applies to this a reserve margin equivalent to the largest generation unit on the system plus capacity to cover intermittent load and a margin for frequency keeping capability. For example, in 2009/10, the IMO has allowed for a total reserve margin of 400MW. The market rules for the WEM prescribe this process and if it was deemed that a higher margin (greater security) was appropriate, then this could be done through the rule change process (noting of course that the higher the reserve, the greater the cost which will reflect in tariffs). This independent, open and non-political process has now been in place and operating effectively since October 2005 and has resulted in significant new generation as was discussed earlier in this paper.

One of the features of this process is its transparency. The IMO publishes and annually updates ten year forecasts in its Statement of Opportunities (SOO) which is released publically. The SOO provides independent aggregate forecasts for the next ten years of maximum peak demand and energy usage for all loads that form part of the SWIS together with information on current generation and Demand Side Management (DSM) capacity in the SWIS, capacity which is planned and planned capacity retirements. This information is freely available to all market participants at the same time. As another example of transparency, the IMO recently started publishing LOADWATCH – a weekly snapshot of the level of available capacity and load and therefore the capacity margin for the previous week, forecast temperatures and load for the next week and a comparison with the same time the previous year.

If generation capacity is adequate, the next issue with respect to reliability is the transmission and distribution network, which in the SWIS, is almost entirely the business of Western Power. It is in this area that the ERA has a responsibility for monitoring Western Power's performance. There are performance standards specified under the access arrangement and there are performance requirements specified in Western Power's transmission and distribution licenses. With respect to the access arrangement, Western Power is required to report its performance on an annual basis and it is likely that the access arrangement for 2009/10 – 2012/13 will have a Service Standards Adjustment Mechanism by which Western Power can be incentivised to perform and includes penalties for poor performance.

With respect to the licences, there are independent audits of the performance and asset management systems (usually every two years) with the ERA having a number of powers (including potential fines) to deal with a breach of licence conditions.

In addition, the ERA releases annual performance reports on the performance of networks. These reports provide information on performance relative to Codes and industry reliability in addition to comparing performance standards with network operators on a national basis.

Again, one of the features of this process is its transparency. Reports of performance against the standards under the access arrangement and the Audit Reports under the Licences are all made public including any action that might be taken by the ERA. The level of public information that is now available with respect to the state of the networks and comparisons of performance would not have been available under the integrated monopoly of the past. This transparency is one of the clear benefits of the reform process.

It is System Management (a ring-fenced division within Western Power) which has responsibility for bringing this all together in real time – matching the demand from consumers with the available generation and ensuring the energy required is distributed through the transmission and distribution network. The performance of System management is monitored by both the IMO and the ERA.

Finally, with respect to the retail end of the market, in the event that we have full retail contestability, the legislation provides for the appointment of a Supplier of Last Resort by the ERA (as is currently the case in the gas industry). This process would protect consumers in the event that a particular retailer were to fall over.

### **Economic Development**

There are some who argue that energy policy should be, at least in part, an arm of the Government's economic development approach. While I may not necessarily agree with that approach (and that is a discussion for another day), the point is that such an approach is possible under the current industry structure but it would be transparent.

The most likely scenario would be an expansion of the wires network for a new project which on its own would not be a commercial proposition for Western Power. Under the access arrangement, the ERA is only able to add capital expenditure incurred by Western Power to Western Power's capital base if the investment satisfies the New Facilities Investment Test (NFIT) – one aspect of which is that unless there are safety and reliability issues or other system wide benefits, the increase in the capital base should not result in an increase in tariffs across the network (the investment pays for itself). If it doesn't then there is a need for a capital contribution to be made so that existing users do not receive increased tariffs to subsidise the development. In this event, should the Government wish to proceed, then it would need to make a capital contribution (that is, the shortfall would be met by taxpayers).

One of the advantages of this approach is that it makes the process very transparent. This is to be contrasted with what might have occurred under the previous integrated Western Power where at the request of the Government, Western Power would have proceeded with the development and funded it by cross-subsidies from existing customers. Not only would the process have potentially lacked transparency but it would have violated the objective of achieving efficiency through cost-reflective tariffs.

### **Efficient Demand Responses**

One of the more significant factors adding to the cost of electricity is the need to cater for peak demand. Currently, in the absence of time of use residential tariffs (even if overall we had cost reflective residential retail tariffs), there is no financial incentive for residential consumers to moderate their behaviour in times of peak demand. The result is that the IMO ensures that there is enough generation capacity (funded through the reserve capacity price) to meet the peak together with the margins discussed earlier, even though this peaking plant may only be used for a few hours per year.

As an example, assume that through time of use tariffs we were able to reduce the peak demand by residential consumers by twenty per cent through consumers shifting the time of use rather than necessarily reducing their total demand for electricity. Residential consumers make up around 30 per cent of the load and so it would reduce the peak generation capacity required by 6 per cent, or approximately 270 MW. Currently electricity users (through the IMO) pay \$104,125 per MW per year for this generation capacity to be available and so a twenty per cent reduction in residential peak demand would lead to a saving of around \$28 million per year. (The benefits would actually be greater than this because the change in behaviour would not only reduce the peak but would also potentially fill the troughs leading to a smoother daily demand profile which would lead to more efficient generation.)

This issue was discussed earlier in this Conference by Jim Mitchell from Synergy (and possibly by Doug Aberle from Western Power). Advanced meters with in-house display with time of day pricing could well be the mechanism by which cost reflective prices can send appropriate signals to consumers to ensure the electricity system is used efficiently. There is of course a need to ensure that the potential benefits of smart meter technology outweighs the costs but consistent with the views of Jim Mitchell and the views expressed in this paper about the need for cost reflective prices, this issue needs to be considered with some priority. It would also give consumers a way to minimise the impact of the significant increased retail prices discussed earlier in this paper.

## **CONCLUSION**

It is the view of the ERA that the electricity reforms in WA have been worthwhile, that the market, while still developing, is working well and that WA will continue to benefit from those reforms. There are changes needed, which is not a surprise as the system was always to evolve over time, but in thinking about those changes the overriding objective should be one of economic efficiency – this will be in the long run interests of all electricity consumers.

Any further reforms should seek to exploit all opportunities to create competitive tensions in the market place (as a regulator let me assure you that regulation is a “second best” option). To continue the consistent theme throughout this paper, three other guiding principles to assess future reforms should be:

- Cost-reflective pricing across all aspects of the market;
- Transparency;
- And given the size of the WA market, vigorous cost/benefit analysis to ensure the costs of future reforms do not exceed the expected benefits.

Thank you.