Australian
Competition &
Consumer
Commission

The Utility Congress

Melbourne

3 September, 2002

"Reforming Australia's Electricity Market"

Professor Allan Fels

Chairman

Australian Competition & Consumer Commission

Introduction

Over the past decade Australian governments introduced wide-ranging reforms in the electricity industry. Today I will discuss the reforms and identify areas where further change is required.

We started with vertically integrated businesses operating in each of the states. Typically these businesses were government owned and operated as monopolies – there was no choice of supplier and governments protected the businesses from competition. And there was virtually no interconnection between the states.

Not surprisingly these businesses were inefficient with low labour and capital productivity. They were uncompetitive by world standards with prices which compared poorly with international benchmarks.

In the 1980s the uncompetitive energy prices were becoming increasingly problematic for trade exposed companies, especially in the energy intensive manufacturing and resource processing sectors. Tariff reductions, the elimination of quotas and the floating of the Australian dollar exposed companies to international competition. These companies needed lower energy prices to compete effectively in the international economy. Governments responded by introducing a number of structural and regulatory reforms.

The structural reforms vertically separated contestable generation and retail services from the non-contestable transmission and distribution services. They also horizontally separated the contestable services to create new generation and retail companies which compete with one another in the National Electricity Market.

The regulatory reforms introduced new measures to address market power in provision of the non-contestable gas and electricity transmission and distribution services. Governments gave the ACCC responsibility for implementing many of these regulatory measures.

Now is a good time to take stock of the reforms. The reforms have been in effect for several years now so we have the experience and information needed to assess their performance and the scope for improvements.

In this paper I focus on three issues. First the need for further reform in the electricity market, second the institutional arrangements for regulating the electricity sector, and third the impact of regulation on new investment.

Further electricity reform

My view is that reforms to the electricity market are a step in the right direction and have produced some good outcomes, but fall short in some important respects.

Electricity companies are now exposed to a degree of competition in generation and retail markets, and for the first time we have a national market rather than isolated state markets. Prices have moved up and down since the NEM started but there has been a downward trend. Wholesale prices are now around 40% lower than pre-reform prices[1] and productivity in the industry has grown strongly[2], though there is a question about the extent to which these improvements would have occurred anyway with the technological changes that have occurred over the period.

At the same time the reform process started in the 1990s is stalling leaving us half way between the starting point of government owned monopolies and a fully competitive market. So far we have established national markets for electricity, but have not established the conditions necessary for their effective operation. In particular:

- Structural and demand side reforms are incomplete leaving large generation companies with significant market power in some circumstances.

- Interstate interconnection has developed more slowly than desirable limiting the scope for inter-state competition between generators.

[1] Bardack and NEMMCO data.
[2] Productivity Commission (2001), *Productivity estimates to 2000-01*, November 2001.

- Continued government ownership of electricity companies can make the ongoing development of the market more complex as it leaves a conflict of interest for governments as business owners on the one hand and representatives of consumers on the other.

The existing market structure means that generators have market power at times. Since the NEM started we have seen many ‘price spikes’. Price spikes are an intrinsic part of the market, and are necessary to provide price signals for new investment, particularly for peaking generation. However, at times these price spikes do not seem to be linked to underlying supply and demand conditions. This view is supported by consultancy work undertaken for the Commission[3] and ABARE.[4] Work by OFGEM on market power in the UK reached similar conclusions.[5]

The Commission has argued that this market power could be addressed through:

1. Further structural reforms (ie further horizontal separation of generation companies) and or measures to promote new entry.

2. Further investment into interstate interconnection.

3. Completion of the move to full retail contestability and the roll out of interval based meters.

New entry and structural reforms will promote competition by increasing the number of competing players. Increased interstate interconnection will increase the scope for competition between generators in different states.

---

[3] See for example the reports prepared for the Commission by Robert Booth of Bardak Ventures (“Review of Generators’ Bidding and Rebidding Practices in the NEM”) and by Hugh Banister of Intelligent Energy Systems (“Review of Generators’ Bidding and Rebidding”).

[4] Australian Bureau of Agricultural and Resource Economics, consultancy report carried out for the Commission in 1997.

[5] Office of Gas and Electricity Markets (OFGEM), *Pool Prices in July – Statutory consultation on Proposed Licence Amendments*, December 1999.

At the moment limited competition in the electricity market is compounded by a lack of demand side responses to high prices. This inelastic demand contributes to high price spike and creates greater incentives for generator practices such as economic withholding.[6]

Until the move to full retail contestability is completed and interval meters[7] are introduced, customers will not be in a position to respond to price signals in the market and adjust their consumption patterns. I encourage governments to meet their commitment to give consumers choice of supplier. This is happening at varying rates. Another way of addressing the market power of generators is through market design measures such as re-bidding rules. This is being proposed by the National Electricity Code Administrator (NECA).

In general the Commission considers that such measures are a poor substitute for the structural and other reforms I just mentioned. Having said this, we may need to resort to rebidding rules and other changes to the rules governing the operation of the wholesale market if those more fundamental reforms are not undertaken.

NECA's proposals could go some way to addressing the rebidding problem. However, the Commission is concerned that the proposals would create a significant additional cost burden for participants in the market and could create greater uncertainty for them and potentially even deter investment. The challenge is to design rules that are effective without creating new problems. The Commission is currently assessing NECA's proposals for authorisation purposes. We recently released a draft determination, have held a pre-decision conference, and are now seeking submissions.

---

[6] Economic withholding describes the situation where generators bid amounts of capacity in high price bands, knowing that this capacity will not be dispatched. The effect of this strategy can be to increase the spot price. The design of the spot market is a single price auction where the marginal generator sets the price for energy consumed in that period. Inelastic demand means that the marginal generator can be the price maker. So for a large generator it may be profit maximising to adopt a rebidding strategy in which not all capacity is utilised, but a higher price is received for the electricity that is dispatched. To successfully exercise market power the increased price for the electricity dispatched has to more than make up for the loss on the withheld capacity.

[7] Interval meters measure power usage over short time periods, for example every five minute interval over the day.

Recently NECA flagged that it will amend the proposals it has already submitted to the Commission for consideration. So far the Commission has not received a formal proposal from NECA. However, it is worth noting that a change along the lines suggested by NECA will require a further public consultation process.

Institution arrangements for regulating the electricity sector

Over the past few months much of the debate about electricity market reform has focused on the institutional arrangements for regulating the energy sector. I would like to make two comments about this debate.

First, despite the almost inevitable emphasis on institutional arrangements the big issue for the electricity sector is getting the reform process moving again and addressing the issues that I have just discussed: interstate competition, industry structure, questions about public and private ownership, retail contestability and so on. By comparison the institutional reforms are a second order issue since these reforms go to fundamental policy settings which are the responsibility of governments, not the regulatory agencies.

My second point about institutional arrangements in the energy sector is to emphasise the importance of the link between competition law and regulatory policy. There is, for example, the idea of having a single NEM regulator. What could be simpler? Well there are a few things.

First of all, most of the proposals for a single NEM regulator intend to keep separate state regulation which I support, I have no problems with that, but it wouldn't be a single regulator. The proposal would merely reshuffle responsibilities with one agency removed (NECA) and one created (the NEM regulator). You would have a national regulator, state regulators and the ACCC doing its job under the Trade Practices Act.

Secondly there is the Trade Practices Act. No one has suggested that you wouldn't have a competition agency making decisions about mergers, collusive behaviour and anti competitive agreements and issues of market power through predatory behaviour and the like. The competition agency would continue to do that.

So there would be this NEM regulator, there would be state regulators, and there would be a number of matters which would require involvement of the competition agency because the energy industry is not going to get an exemption from the Trade Practices Act. The combination would, I think, give quite a complicated situation, more complicated in some ways than now.

This is not to say that the current institutional arrangements cannot be improved. They can, but any changes need to be carefully considered.

In order to take the debate forward I propose a number of general principles for assessing some of the ideas being discussed.

The principles are as follows:

1. Recognise the role of governments as policy makers. It is to be expected that decisions on the fundamental policy setting covering the electricity market will have the involvement of governments.

2. Give industry and other stakeholders a greater role in market development. Market participants are the ones who have first hand experience and this experience should be utilised in the development of the rules under which industry operates.

3. Streamline processes for developing code changes. At the moment the code change process is complex and slow with separate processes handled by separate agencies (first there is code development, then assessment by NECA, then authorisation by the Commission, then assessment of code changes by the Commission under the access provisions in the Part IIIA of the Trade Practices Act). As many of these functions as possible should be handled in a single process and the processes should be streamlined so that they are carried out in parallel rather than sequentially by different agencies.

4. Establish a framework where administration of competition laws and economic regulation are integrated.

A few moments ago the Hon. Ian Macfarlane, Minister for Industry Tourism and Resources, said that he is considering options for establishing a single national regulatory structure. In my view this would be a positive step forward and would go a long way to achieving the principles I just set out. The ACCC would be happy to work with the Government in its consideration of the options.

One option would be to build on existing arrangements to establish a single body with responsibility for economic regulation of the National Electricity Market. At the moment the Commission has an Energy Committee which considers electricity transmission regulation and authorisation matters. The Committee comprises ACCC representatives and members nominated by the states. The Committee could be reconstituted to give it a broader role. The attraction of this model is that it would give both the Commonwealth and the states a role. The states would have an ongoing role through their nomination of members of the new regulatory body and through the state regulators (whose functions would continue as now).

For this approach to work effectively there would need to be strong links between regulatory and competition functions. Without these links we potentially have the situation where one agency deals with code changes and transmission and distribution regulation, and the competition agency separately makes decisions on authorisation of code changes, access matters, mergers and enforcement of the other provisions in Part IV and V of the Trade Practices Act including misuse of market power. In this scenario the matters are considered in consecutive processes by separate bodies. This adds to delays and increases uncertainty about outcomes.

A good indication of the complex interplay of Trade Practices Act issues, and access and regulatory issues, is given by the content sharing agreement between Foxtel and Optus in pay television which the Commission is considering. This is not just about pay television. It has also has far reaching implications for telephone and broadband competition. It has got a mixture of Trade Practices matters. There are issues about anti competitive agreements, there are questions about access, there are also questions about changing the law. Basically the Commission considers the original proposal is anti-competitive, but Foxtel and Optus have submitted a proposal which involves access and other regulatory sticks as a way of overcoming our concerns. If there were a separate telecommunications regulator from the Commission, the possible resolution of the matter by these means would be extremely complex and even more difficult. Similarly in energy there would be problems in separating the Trade Practices Act matters from the national energy regulatory scheme.

In his speech the Minister also argued that market participants should be given a greater say in market development. Again I think that this would be a positive step forward and is consistent with principles for good governance.

The approaches adopted successfully in the PJM market in the US[8] and in Victoria before the NEM commenced provide a useful pointer to how this could be done. In both cases consultative committees were established comprising representatives selected by industry. In both cases the committees had responsibility for market development. Translated to the National Electricity market, the committee could develop code change proposals, in conjunction with NEMMCO if necessary. Of course the risk is that industry develops proposals which work in its interests but not those of the public. For this reason any changes would, as now, need to be assessed for anti-competitive effect.

New Investment

Let me turn to new investment.

As part of the debate about energy reforms there have been expressions of concern that regulation can deter investment by service providers. The argument has focused on the gas sector but is relevant to all regulatory decisions. In general the arguments have

[8] The market services the states of Pennsylvania, New Jersey, Maryland, Delaware, West Virginia, Virginia and part of Ohio.

been couched in terms of regulatory error, namely that regulatory prices are too low and deter investment.

I would like to make three points about the argument that regulation is deterring investment.

The first point is that investment is likely to be sub-optimal in the absence of regulation. The infrastructure facilities we are talking about typically have natural monopoly characteristics. The monopolist's profit maximising position will give higher prices and lower output than competitive or regulated outcomes which in turn leads to lesser capacity requirements and lower investment by the service provider.

An unregulated monopolist's behaviour is also likely to result in under-investment in downstream industries. Higher infrastructure charges translate directly into higher input costs for downstream industries which affects their competitiveness and ultimately their investment plans. The sensitivity of investment in energy intensive manufacturing and resource processing to delivered energy prices is an obvious example of this.

The second point is that the evidence does not support the argument that regulation is deterring investment. In Australia there is now a considerable amount of data on new investments and this consistently points to strong investment outcomes. For example:

- Investment in regulated electricity transmission lines is at historic highs. Transmission companies in the National Electricity Market plan to undertake around $3 billion in new investments over five years. This will add 40 to 50 per cent to the existing asset base.

- A report by BIS Shrapnel[9] showed substantial increases in investment in the telecommunications sector over the past few years. Investment by Telstra has

[9] BIS Shrapnel, *Telecommunications Infrastructures in Australia, A Research Report Prepared for the ACCC*, July 2001.

consistently remained at around $4 billion annually. In addition competing carriers have invested hundreds of millions in new telecommunications infrastructure.

- Over $800 million in gas transmission developments is under construction or committed, and further projects are proposed.

My third point is that the theory does not support the argument that regulation is deterring investment.

It seems clear to me that in any regulatory process there will be errors, but there is a further question as to whether there is any systematic bias in the distribution of errors. If I can put it in simplified terms you could have an even distribution of errors, a systematic bias of errors which work in favour of regulated industries, or a systematic bias of errors in favour (or more accurately apparent favour) of the consumer and against the regulated industry.

Not surprisingly regulated businesses and the many people they hire to make their cases for them in submissions, at inquiries, at hearings and so on keep putting the argument that the errors are biased against the regulated industries.

My own view, though, is that to the extent that there may be any error there is almost certainly a bias in error making in the opposite direction, that is that the bias is in favour of the regulated industries.

This view is reinforced by the economic literature. The Averch Johnson[10] line of literature starting in the early 60s, for example, started from the assumption that regulators are too generous, and then went on to discuss the implications of this in terms of inefficiently high levels of investment. All of that literature combines quite well with the political science type literature by Bernstein,[11] Stigler,[12] Jordan[13] and others about the capture theory of regulators.

---

[10] H. Averch and L. Johnson (1962), "Behaviour of the Firm under Regulatory Constraint", *American Economic Review*, 52, pages 1052-69.
[11] Bernstein, M. H. (1955), *Regulating Business by Independent Commission*, Princeton U.P.
[12] Stigler, G. J. (1971), "The theory of Economic Regulation", Bell Journal, 2, pages 3-21.

And then there is the literature which explores the impact of asymmetry of information between regulated businesses and the regulator which again points in the same direction.

Of course there is also the conservatism of regulators highly anxious not to distort investment.

So I start from the position of some scepticism of the submissions and reports which automatically assume that regulators are going to be biased against regulated businesses. To share their concerns and to be convinced by such a case I would need to see solid evidence. There is in fact no evidence of an empirical kind in Australia to support any such case.

That is not to say that the Commission is not concerned about the risk of regulatory error. Far from it. One issue the Commission has been particularly interested in is higher risk new greenfield investments. Recently the Commission released a draft greenfields guideline. You will see that the Commission has gone out of it's way to try and accommodate the special concerns that arise where there is risky new investment as compared to situations where there is investment in long established public utility facilities.

The draft guideline spells out how the risks associated with greenfield developments can be accommodated. It eliminates some of the down side risks that firms in competitive markets continue to bear. For example:

- service providers can capitalise losses in early years so that they gain greater upside in later years when their market may have grown; and

- service providers can seek a review of the tariffs if demand outcomes are worse than originally forecast.

---

[13] Jordan, W. A. (1972), "Producer Protection, Prior Market Structure and the Effects of Government Regulation", *Journal of Law and Economics*, 15, pages 151-176.

Furthermore the Commission's approach allows regulated businesses to outperform the benchmark cost of capital used in decisions and retain the additional profits.

Overall I consider that the current regulatory provisions and their application provide a solid base for future investment.

Conclusion

Over the past decade we have had wide ranging reforms in the electricity industry. Today I argued that these reforms are incomplete and the reform process is stalling. So far we have established national markets for electricity, but have not established the conditions necessary for their effective operation.

I also commented on the debate about institutional arrangements in the electricity sector and set out some proposals which I hope will contribute to that debate. But my main message is that the big issues in energy reform are not about the institutional arrangements. We need to make sure that we are not side tracked from tackling important issues like inter-state competition, industry structure and retail contestability.

Today I also touched on the issue of new investment. There have been expressions of concern that regulatory error can deter investment by service providers. The presumption seems to be that regulators are going to be biased against regulated businesses. I am sceptical about the reviews, reports and submissions which start with this position. It is not supported by the economic literature and it is not supported by regulatory experience. To share their concerns and to be convinced by such a case I would need to see solid evidence. There is in fact no evidence of an empirical kind in Australia to support any such case.

In conclusion, the picture I have painted about the state of the electricity sector is mixed. There has been some progress but continued reform is essential if we are to fully realise the potential of the reforms already undertaken.