

  <p>Australian Competition Consumer Commission</p>	<p>CEDA State of the Nation Conference <i>Energy Regulatory Landscape: Creating an Effective Investment Signal</i> Ed Willett, ACCC Commissioner & AER Member 15 June 2007, Canberra</p>
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Introduction

Thank you for inviting me to speak at the State of the Nation forum, and for the opportunity to offer some perspectives on regulation and investment in the energy sector. Given the recent attention to electricity prices, I will also make some specific comments on the state of the electricity market, and what the future might hold. First, however, I'd like to briefly consider the progress that has been made over the last decade or so.

State of the energy sector

In 1999 Queensland, New South Wales, Victoria, South Australia, Tasmania and the ACT established the National Electricity Market (NEM) to allow power to flow across state borders to meet demand more efficiently.

Since then, new investment in generation and transmission, combined with the national market arrangements, have improved productivity, delivered stable reliability and—over the long term—significantly reduced energy costs for business customers.

While competition reforms have transformed the energy sector, there has been some debate in recent years about the optimal design and application of regulation to engender certainty, and how this can affect investment. Two key features in this regard are the consistency of regulation and the timeliness of decisions.

Consistency in regulation

It became clear a few years ago that the plethora of regulatory regimes and regulators was an impediment to the development of national markets for energy infrastructure. Governments agreed to act on this issue by transferring the regulation of the energy sector to a new body, the Australian Energy Regulator (AER). The underlying principle was that a national energy market needs a consistent national approach, rather than a state by state approach to regulation. The AER intends to adopt a consistent approach to regulation that reduces regulatory costs and uncertainty to business. In doing so, it aims to avoid inconsistent regulatory approaches that would distort investment and impose unnecessary costs on utilities that operate across state boundaries.

The AER was established in 2005 as a part of the Australian Competition and Consumer Commission (ACCC), but operates as a separate legal entity. The

AER will assume responsibility for the economic regulation of the NEM energy sector on a staged basis over the next two years. It has been the regulator of the wholesale market and transmission networks in the NEM since July 2005. The regulation of electricity distribution networks, gas pipelines and non-price retail functions will transfer from the states to the AER over the next year or so.

In regard to the electricity wholesale market, the AER monitors the compliance of market participants with the National Electricity Law and Rules, and investigates and prosecutes breaches. This requires very close monitoring of wholesale market activity. The AER reports extensively on outcomes, including weekly and quarterly reports on market activity, investigations of market incidents, and reporting on prices that exceed \$5000 per megawatt hour. The reporting focuses on potential Rule breaches, but also comments on behaviour that may not be consistent with the objectives of the market. In July, the AER will publish its first report on the state of the energy sector as a whole. This comprehensive report will cover the wholesale and financial markets for electricity, as well as the networks, retail and gas markets.

The AER regulates electricity transmission networks under a framework set out in the National Electricity Rules. The approach is to determine a revenue cap for each network, based on what is necessary to cover efficient costs, while providing for a commercial return to the owner. Gas pipelines are regulated under the National Gas Code, which involves the setting of benchmark tariffs to cover efficient costs. In both electricity and gas there are regulatory incentives for efficient investment and operating expenditure. There is also a service standards incentive scheme for electricity networks to ensure that efficiencies are not achieved at the expense of quality.

The legislative framework for regulation of the industry is undergoing change. Governments are about to introduce a new wave of legislative reform including a new National Gas Law (NGL) and amendments to the National Electricity Law (NEL). The amendments aim to improve certainty through a more prescriptive approach and the setting of timeframes for regulatory processes.

COAG has also addressed the issue of consistency through amendments to Part IIIA of the Trade Practices Act to ensure that the regulation of significant infrastructure applies consistent regulatory principles and time frames. The amendments, passed in 2007, include an objects clause to clarify that Part IIIA focuses on the promotion of efficient use of and investment in infrastructure to promote competition in upstream and downstream markets.

The new objects clause highlights an important challenge for economic regulation. On the one hand, the rationale for access regulation is to constrain the ability of bottleneck infrastructure providers to price above efficient levels, and from restricting the entry and expansion of rivals. On the other hand, regulation should not deter efficient investment in infrastructure.

In this context, a number of reports and reviews over the past three years have emphasised the role of 'light-handed' regulation, such as price monitoring. But if the purpose of regulation is to allow appropriate access to

bottleneck infrastructure, price monitoring may not be the most effective regulatory tool. The ACCC's monitoring of airports has shown that there were substantial increases in airport charges, asset valuations, and indicators of short-term profitability following the replacement of price regulation with price monitoring arrangements in 2002. When there is substantial market power, regulation that influences prices more directly is likely to be a better regulatory tool.

This is also likely to be true of negotiate–arbitrate regimes. In the presence of substantial market power, the prospect of intervention by an independent regulator can help to rebalance bargaining strength, and increase the prospects of commercial resolution.

Part IIIA adopts a negotiate–arbitrate model in which the ACCC does not have an immediate role in price setting. Rather, the ACCC only has a role in arbitration if commercial negotiations fail. But the *threat* of regulatory intervention can discipline the negotiation process. For example, we recently saw the resolution of a long running dispute between Sydney Airport Corporation and Virgin Blue, following Virgin's notification of a dispute to the ACCC in February 2007. The fact that the issue was quickly resolved once the dispute was notified suggests that the prospect of intervention may have motivated the parties to reach an agreement to avoid an arbitrated outcome.

A similar example emerged in May 2007, when AGL Wholesale Gas Ltd and East Australia Pipeline Limited reached commercial agreement on a delivery point issue in relation to the Moomba to Sydney Gas Pipeline. The parties reached agreement soon after the notification of a long running dispute under the National Gas Code to the ACCC in December 2006.

Investment issues

While there is scope for commercial negotiation in relation to access charges for energy infrastructure, the regimes tend to be relatively prescriptive. As I mentioned earlier, the relationship between regulation and investment can be a contentious one. Certainly there is a risk of regulatory error in price cap and 'building block' regulation that is applied by the AER to energy infrastructure, particularly in relation to a project's cost of capital. However, the AER is well aware of the scope for regulatory error—and tends to be conservative in its selection of parameter values for key cost of capital components.

There is also the theoretical risk that regulation could distort investment if there is *ex post* adjustment of actual returns. But this does not generally occur in Australia because the usual regulatory practice is to apply an incentive based framework where the time path of regulatory revenues are set in advance so that the regulated firm has the expectation of achieving the allowed rate of return.

In the regulated energy sector, much investment is specific, and hence sunk. It is therefore important that the regulatory framework be stable and predictable—otherwise there is a greater risk that the regulated firm will not be able to recoup its investment.

The ACCC's and AER's experience is that the design and ex ante application of traditional forms of regulation substantially mitigates the theoretical concerns regarding investment incentives. The evidence certainly suggests that energy infrastructure investment over the last few years has been remarkably high.

Since assuming responsibility for transmission regulation in the NEM over the last few years, ACCC—and now AER—decisions have paved the way for over \$4.5 billion in transmission investment. Annual investment is running at around \$700 million, driven largely by network expansions and upgrades. Real transmission investment is forecast to rise by around 80 per cent in the five years to 2007–08.

The AER this week released its first electricity transmission revenue cap decision following the transfer of functions from the ACCC. The decision approves revenues for \$2.6 billion investment over the next five years by Powerlink Queensland to meet strong demand growth and to replace ageing assets. The decision provides for annual average investment in Queensland of around \$520 million—a rise of 80 per cent compared to the past five years. The AER has also applied a service standards scheme to Powerlink for the first time to ensure there are incentives to maintain or improve service levels.

There has been a similar story in the significantly larger distribution sector. Across the NEM, real investment in distribution assets grew by around 12 per cent annually in the five years to 2004–05, and is now running at around \$3000 million per year. In both transmission and distribution, strong investment is occurring in an environment in which the regulated revenues of network businesses are rising and network reliability is being maintained.

There has also been significant investment in gas. Development expenditure in the petroleum industry increased four-fold over the period 2002 to 2006. New gas basins and fields are being developed, often in conjunction with the construction of new transmission pipelines to ship gas to markets. Australia's gas transmission pipeline network has almost trebled in length since the early 1990s, including around \$2.5 billion investment in new pipelines and major expansions since 2000. Much of this is in long-haul pipelines that have introduced new supply sources and improved the security of gas supplies into markets in south-eastern Australia. The new pipelines—which are not regulated—include:

- Eastern Gas Pipeline: Longford (Vic) to Sydney
- Tasmanian Gas Pipeline: Longford (Vic) to Tasmania
- SEA Gas Pipeline: Port Campbell (Vic) to Adelaide
- North Queensland Gas Pipeline: Moranbah to Townsville and
- Telfer Gas Pipeline: Port Hedland to Telfer (WA).

In June 2006, the ACCC approved \$61.7 million as prudent costs for GasNet's construction of the Corio Loop in Victoria. This decision provides regulatory certainty that these investment costs can be recovered by committing the ACCC to a binding, upfront agreement that the approved amount will be included in the capital base over time.

Timely regulation, accountability and merit review

I have already touched briefly on the need for decision making to be timely, accountable and subject to appropriate review.

Statutory time guidelines—usually of six months—are increasingly being introduced for our regulatory decisions. However, the effectiveness of these time guidelines will depend critically on whether regulated firms acknowledge and take steps to reduce

- information asymmetry that constrains a regulator’s ability to make timely decisions
- ambit claims that reduce the speed of regulatory decisions.

A balance also needs to be struck between accountability in decision making— that is the ability to review a decision—and timeliness. While it is important that decision makers are accountable, multiple levels of review can seriously delay outcomes.

The declaration of airside services at Sydney airport is a notable example. The original access application was made in August 2002, which led to a declaration recommendation in November 2003 and a Ministerial ruling in January 2004. However, that ruling was reviewed by the Tribunal with a decision in favour of declaration in December 2005. That decision was appealed to the Federal Court with a decision rejecting the appeal in October 2006.

As I mentioned earlier, the ACCC has been arbitrating a dispute—now withdrawn—between Sydney Airport and an access seeker. If either party had been unhappy with our ruling they could have sought review by the Tribunal. Each step is open to appeal by the Federal Court. In the absence of a commercial agreement, several years could have passed before the process was complete.

COAG has moved to streamline the review process by announcing that where merits review of regulatory decisions is provided for, the review will be limited to the information submitted to the regulator. This is already a feature of merits review of some ACCC decisions relating to gas pipelines and telecommunications networks and tends to shorten the time taken by merits review. Importantly, it discourages forum shopping by preventing new evidence from being considered once the decision is made.

Investment in contestable markets

While I have focussed so far on investment in the regulated network sector, there is also a need for appropriate investment signals in the contestable energy sector. There are significant differences between the relatively stable revenue streams and investment signals in a regulated market from those that can occur in a competitive market.

Both the wholesale and forward electricity markets have recently behaved in what—at first glance—might appear to be an abnormal manner. As I will explain, the markets are in fact behaving largely as they should in the current environment. Our market monitoring suggests that what we are seeing is

mostly a normal market response to what we hope is a short-term phenomenon — the consequences of prolonged drought.

First, let's look at the facts. Over the past eight weeks or so, wholesale electricity prices have been unusually high. Prices this quarter have averaged \$70 per megawatt hour compared to around \$25 in the same quarter last year. This is particularly unusual for autumn, when prices are normally subdued due to relatively low demand.

These trends are flowing through to the forward market for derivative contracts. Forward prices for base and peak contracts have risen for all quarters through to 2010. Prices are particularly high in Q3 and Q4 2007—normally relatively low price periods. Prices are also high in Q1 2008—most markedly in Queensland.

Why are prices high?

So, what is causing high prices? Demand is comparable to this time last year, so that is not a factor. Instead high prices over the last two months have been driven by tight supply conditions. Unusually high rates of plant maintenance have had some impact on supply. But the key factor has been the drought.

The drought has affected hydro-generation capacity in the Snowy, Victoria and Tasmania. Low water levels in dams are reducing the amount of electricity that hydro generators can produce. This has translated into output reductions and—for some generators—higher costs. For example, Snowy is pumping water to deliver around a third of its output, which has a direct cost of around \$43 per megawatt hour, and involves a 30 per cent efficiency loss.

The hydro generators have responded by reducing the amount of electricity they dispatch at low to medium prices. This has had flow-on effects across the NEM, with generator offers at prices below \$50 per megawatt hour down by around 5000 MW this year compared to 2006.

While the most obvious impact of drought is on hydro-generation, there has also been less water available for cooling in coal plant that relies on fresh water. In Queensland water shortages have reduced generation output by around 8 per cent of regional capacity. While the affected plant can still be used at times of very high demand to ensure security of supply, at present they are not running.

The sharp increase in forward prices is more difficult to explain. High prices through to autumn 2008 are consistent with claims by large energy users that contracts are more difficult to obtain. But the increase is also consistent with the market factoring in the risk of persistent drought. There may be additional factors at play here, including the possibility of over-correction. Electricity financial markets are still relatively new and this is the NEM's first major widespread shock. These markets are maturing quickly. But it would not be surprising if inexperience is leading to sharp responses and corrections from time to time. The AEMC and AER will further examine the state of the financial markets under work programs announced by COAG in April 2007.

Is market power an issue?

In the current conditions there is the risk of market power issues emerging. The bidding data certainly shows that generators are responding to tight supply conditions by bidding into higher price bands. For generators that are constrained by water-related issues this may be a genuine reflection of higher costs. In addition, other generators that do not face cost pressures may be able to take advantage of the general shortage of low-cost generation by raising their bid prices. In the short term, this is a normal response in a competitive market, and provides signals for new investment in generation capacity. In the longer term a scenario of persistent high prices above new entrant costs—with no investment response—would raise serious market power concerns. This is an area that the AER will continue to monitor very closely over the coming weeks and months.

Market structure issues

Over the past few years, the ACCC and AER have expressed concerns about existing or potentially developing anti-competitive market structures in the NEM. Concerns have focused on risks associated with:

- concentration in generation which may lead to market power problems in spot and contract markets
- trends toward vertical integration that lead to concentrated generation markets and a loss of liquidity in contract markets.

Energy users have claimed that market structure problems are exacerbating the effects of the drought. While this is possible, there is little evidence that market structure concerns are a substantial driver in current spot and contract market outcomes.

Outlook for electricity prices

So, what is the outlook for electricity prices?

If the drought continues there will be ongoing price implications. Further, there are indications that tight supply conditions might prevail until late this year—even with good rainfall. Snowy's main flows are in October and November when the snow melts. Until then its output will be severely limited and its bidding will remain in relatively high price bands. As a result we are likely to see more price pressure than usual throughout this winter.

On the positive side, Kogan Creek in Queensland should come on line in the next few months. This will add around 750 MW of air cooled capacity, and should help ease conditions, especially in Queensland and NSW.

Looking ahead to 2008 some additional capacity should come on-line, including TRUenergy's Tallawarra plant in NSW. New water pipelines should also see some generation in Queensland come back on-line. Some good rains combined with new plant should see some easing of prices in 2008. But there are risks.

NEMMCO is reviewing the impact of drought on reliability. At this stage the AER doesn't see significant risks to reliability until at least the end of 2008. Drought is reducing the output of hydro and some coal plants, but most plant can still run at peak demand periods. Summer peaks can be predicted several days in advance, allowing time to start up plant that is restricted in its use of water for cooling. There have been no indications that plant would be forced to shut down through demand peaks.

The investment outlook

The impact is therefore likely to continue as a price issue, rather than a reliability issue. The most significant risk is of persistent drought. If this were to occur, high prices would continue until investment responses provided a correction. If high prices were to persist for extended periods without an appropriate investment response—or a normalisation of rainfall—then the question of market power would need to be revisited.

Of course the very nature of drought raises challenges for investors. Quite simply, nobody knows how long the drought will persist. Further, the drought may be changing perceptions of the type of investment response that may be needed. The days of viewing water as a 'free' good are over, and every market that relies on it is likely to face higher costs in the future. A rational investment response must factor in these costs. In electricity, the response might include investment in generation plant that is not fresh water reliant, and investment in water pipelines. At the same time we should not overstate the impact of the cost of water in electricity generation. Generators using water for cooling typically require around 2 kilolitres (about \$2 worth at current prices) per megawatt generated. Even a large increase in the cost of fresh water is unlikely to render these plants uneconomic.

We have seen some investment response since the drought with Origin Energy announcing this week that it will construct a 630-megawatt gas-fired power station in the Darling Downs region of Queensland. It expects full commercial operation in the first quarter of 2010. Origin has also announced an expansion of its Quarantine gas plant in South Australia. There has also been the Queensland government's announcement of new investment in water pipeline infrastructure.

Recent reports by the CoAG Energy Reform Implementation Group and the AEMC Reliability Panel noted the importance of policy certainty and transparency in engendering investment responses. The reports referred to risks associated with perceptions of competitive neutrality issues in relation to infrastructure ownership, and uncertainty over carbon trading arrangements. These are not issues for the AER to comment on. However, there would appear to be widespread consensus that policy and regulatory certainty are conducive to efficient investment decisions.

Conclusion

I have covered a lot of ground in my discussion today. The key message I would like to leave you with is that the regulatory and energy markets

framework are well designed to engender efficient investment in energy infrastructure.

In particular, there has been recognition over the last five years that regulation must be applied consistently and in a timely manner. To facilitate this, changes have been made to the design and application of economic regulation and the institutions that apply it. There have been substantial efforts to minimise the scope for regulation to distort investment decisions. This has led to refinements in the application of incentive regulation.

The AER will continue to hone its regulatory practices to ensure that they are effective and 'best practice.' It will also use the tools at its disposal to help to ensure that evolving market structures are not inconsistent with the objectives of efficient, national infrastructure sectors.

In the contestable electricity market, we have seen unusual price activity in 2007 that has raised some fears among participants. But the evidence points to the wholesale market reacting in a largely normal way to very tight supply conditions caused by drought—though the high prices in the forward market may reflect a wider mix of factors. There is little evidence of inappropriate generator behaviour at this stage, but the AER will continue to closely monitor the market.

More generally, the state of the market should not be viewed as evidence of a design issue. Rather the translation of supply issues into higher prices is the most efficient way of sending signals to investors to make a response to remedy the problem. The ability of the market to engender investment is well documented. Five thousand megawatts of generation capacity have been installed in the NEM since 1999—enough to meet peak electricity demand for the whole of South Australia and Tasmania. Another 1600 megawatts are committed for construction by 2008.

Rapidly growing energy needs have created world-wide issues and concerns. This is unlikely to be the last external shock to energy supply in Australia and we can generally expect that the cost of energy will follow a long term rising trend.

In May, the Ministerial Council on Energy reiterated its confidence in the market as the primary mechanism for dealing with supply, demand and energy constraint issues. The AER endorses this position. Efficiently operating markets and market mechanisms deal with volatile markets better than any other form of regulation. Efficient network regulation is an essential enabler of efficient energy markets. Provided that sustained and substantial market power issues do not emerge, the NEM is well designed to resolve current energy supply issues.