



## **Energy 21C Conference**

### ***Energy Reform & the Australian Energy Regulator***

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## **1. Energy reform**

The energy sector in Australia, and indeed the world, is facing great challenges during the remainder of this century. Energy costs are rising as cheaper fuel sources are exhausted, while governments are increasing their focus on the environmental impacts of energy production and consumption, and in particular, on climate change issues. The reforms that have transformed the Australian energy sector over the past 15 years have placed the sector in a good position to face these challenges.

The central reforms included the establishment of a National Electricity Market (NEM) in 1999, regulated access to energy networks and the introduction of retail competition. We have also seen privatisation of the Victorian and South Australian electricity industry, and Queensland's energy retail sector.

The liberalisation of energy markets has been led to substantial new investment. Annual investment is running at around \$700 million in electricity transmission infrastructure and three billion dollars in the local distribution networks that move electricity to customers. Overall, real network investment will rise by around 40 per cent in the five years to 2007–08, driven largely by transmission expansions and upgrades. Over the long term the market has delivered stable reliability, improved productivity and — until very recently — significantly lower energy costs.

I say “until recently” because recent events have caused the AER to express concerns about the exercise of market power in electricity generation.

Wholesale prices rose sharply this autumn due to the effects of drought on hydro-generating capacity in the Snowy, Tasmania and Victoria. The drought also limited the availability of water for cooling in some coal-fired generators such as Tarong and Swanbank in Queensland. These tight supply conditions were exacerbated in June by rain and flooding in the Hunter Valley, which affected some capacity. Cold winter conditions increased heating requirements, leading to a number of new record demands. These factors led to an extremely tight supply-demand balance during the early evening peak hours, particularly in New South Wales.

These factors were exacerbated by day ahead bidding practices of generators. In particular, Macquarie Generation regularly repriced capacity into higher price bands during evening peaks throughout June. Typically Macquarie repriced around 20 per cent of its capacity from under \$500/MWh to over \$5000/MWh between 5 p.m. and 7.30 p.m. These practices did not

involve a breach of the National Electricity Rules. More generally the AER has not detected any evidence of collusion between generators.

In combination, these conditions led to an unprecedented pattern of high spot prices. Spot prices exceeded \$5000 per MWh on 42 occasions in June 2007 in New South Wales, Queensland and Snowy. In June, prices averaged \$274/MWh in New South Wales, \$216/MWh in Queensland, \$157/MWh in Victoria and \$111/MWh in South Australia. By comparison, prices in June 2006 ranged from \$26/MWh to \$42/MWh.

High prices flowed through to the forward market for electricity derivatives, which also experienced record prices in June. This put pressure on some retailers and those large energy users that needed to recontract their forward energy purchasing arrangements. Two retailers exited or scaled down their presence in the market. Energy One withdrew from the market and triggered a retailer of last resort event, while Momentum Energy divested most of its small customer contracts.

This generator bidding activity has shown that, while the NEM is the best electricity market in the world, it is very sensitive to market power. Going forward, competitive market structures in generation need to be achieved and maintained to ensure that the market works effectively, especially as base energy costs increase.

Energy reform has also 'energised' the gas sector, with significant growth in exploration and production activity and expansion of the gas transmission network. Reforms include the introduction of free and fair trade in gas between the states and regulated third party access rights to pipelines. Development expenditure in the petroleum industry has increased four fold from 2002 to 2006.<sup>1</sup> The development of new gas basins and fields is being supported by 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, with around \$2.5 billion invested in new gas transmission pipelines and major expansions since 2000.

Access regulation for gas pipelines has been contentious, but open access is critical to growth and competition in gas markets, which will be increasingly important to electricity generation. The new regulatory framework for gas, which I will discuss shortly, attempts to respond to some of the criticisms of the current regulatory approach and recognises that competition in gas markets is still developing.

## **2. Transition from state-based to national regulation**

A central focus of energy policy reform in the past three or four years has been the development of a national regulatory framework. In 2005, governments established two national bodies — the Australian Energy Regulator (AER) and the Australian Energy Markets Commission (AEMC).

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<sup>1</sup> Generally, exploration and exploitation of gas reserves is conducted jointly with other petroleum products.

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 will assume responsibility for the economic regulation of the NEM energy sector on a staged basis. 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 some retail functions will transfer from the states to the AER over the next 12 to 18 months.

In undertaking its roles, the AER is guided by the objective set out in the legislation, which is:

*to promote efficient investment in, and efficient 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.*

### **Current AER work program**

In the electricity wholesale market, the AER monitors the compliance of participants with the National Electricity Law and Rules, and prosecutes breaches. We have recently published a detailed statement of approach for compliance and enforcement. This followed a risk assessment of the 1500 obligations in the Rules to determine which monitoring mechanisms the AER will use for each obligation and the intensity of monitoring. The AER will also use the risk assessment to help determine the type of enforcement response where a breach is identified. The AER will work co-operatively with market participants to help them understand their obligations under the legislation and to develop appropriate compliance programs.

The AER reports on weekly market activity, unusual incidents and extreme price events. It recently published a report on volatile price activity during June 2007. We have also just published a major new report on the state of the energy market as a whole. This 320 page report covers the wholesale and forward markets for electricity, as well as the networks, retail and gas markets.

The AER regulates electricity transmission networks under a detailed 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.

Governments are now introducing a wave of legislative reforms to streamline the national regulatory framework and to iron out some anomalies. The legislation includes a new National Gas Law (NGL) and amendments to the National Electricity Law (NEL). A comprehensive set of Rules will sit beneath

each of the Laws. The amendments aim to improve certainty through a more prescriptive approach and the setting of timeframes for regulatory processes.

The Ministerial Council on Energy expects the transfer of energy network regulation to the AER to be completed by late 2007 with the passing of enabling legislation through the South Australian Parliament. Further down the track a second tranche of legislation will transfer some retail functions to the AER. These cover non-price areas such as consumer protection and issues such as the administration of retailer-of-last-resort arrangements. The regulation of retail prices will remain with state and territory jurisdictions unless they choose to transfer this role.

The timing of the new legislation means that the AER will make some early price reviews under transitional arrangements. This will be the case for the first electricity distribution reviews under the national arrangements, which will be for NSW and the ACT in 2009.

Once the new legislation is in place the AER will be responsible for regulating the prices of over 40 nationally significant businesses. The number of AER reviews undertaken annually will rise from around two to eight. At the peak of the review work in 2010, the AER will simultaneously review around 12 network businesses.

The AER has been preparing for its expanded work program for some time and will be well placed to take on its new electricity distribution functions at the end of the year. For example, the AER began preliminary work on the ACT/NSW distribution resets in 2006.

The AER has been preparing for the transition by working closely with the jurisdictional regulators and regulated businesses to improve our understanding of the regulatory environment in which each business currently operates, and specific issues for particular states and networks.

The AER is also preparing internally for its new functions and increased workload. We will recruit around 50 new staff over the next two years, including many from the jurisdictional regulators. We will also establish a local presence in most NEM jurisdictions. There are currently AER offices in Melbourne, Canberra, Sydney and Adelaide, and a Brisbane office is planned for the near future.

### **3. Key changes in the new energy regulatory framework**

The new legislative framework has been developed with a number of purposes in mind. Firstly, it provides a generic framework for distribution to make an effective transition from diverse state-based approaches to national regulation. Second, it provides a policy response to a number of issues in energy regulation in recent years. A central theme has been to promote certainty through a more prescriptive approach to revenue cap regulation. This has been implemented both through legislative amendments and through a 2006 review of the electricity pricing rules by the AEMC. In general, the new arrangements codify (albeit with a lot more prescription and clarity) the familiar incentive based ex-ante building-block approach already used by the

AER, but allows some scope over time for alternatives such as total factor productivity (TFP).

Among the changes are tighter and more prescriptive time frames — 11 months for electricity transmission, 13 months for electricity distribution and 6 months for gas networks. The legislation has strengthened the regulator's information gathering powers — which is important to enable these timeframes to be met and, more generally, ensure the objectives of regulation are achieved. For example, the information powers will cover associated entities. At the same time, there are new accountability mechanisms to ensure that information is gathered for *bona fide* regulatory purposes — although aggregated information may be later published to assist market transparency. For example, the AER will continue to publish an annual regulatory report and the new *State of the Energy Market* report.

There have also been efforts to engender greater consistency between regulatory approaches in electricity and gas. One key change is that the merits review provisions currently available in gas will be extended to electricity.

Some of the most significant changes will occur in the regulation of gas pipelines. There has been some criticism in recent years that the gas sector is over-regulated. This follows substantial new investment to create an interconnected pipeline network in south-eastern Australia that has created the potential for inter-basin and retail competition. The new gas framework responds to this by introducing a less intensive regulatory regime in the pipeline sector. In particular, the regime allows for

- a 15 year exemption from coverage for international and greenfields gas pipelines on recommendation of the NCC; and
- 'light' regulation of gas pipelines under certain conditions.

### ***The AER's approach to energy regulation***

The new legislation aims to achieve a consistent national approach to energy regulation that reduces regulatory costs and uncertainty to business. The AER is undertaking measures to reinforce this objective.

The new legislation provides certainty by pre-determining many aspects of the regulatory process. The AER will seek to further minimise regulatory risk through clear up-front requirements and consultative processes.

The new timeframes mean that the initial regulatory proposal by a business will need to be comprehensive and fully supported by documentation. In effect it will be in the interests of the businesses and the regulator to have all relevant information provided upfront. With that in mind, the AER has been working with the businesses to set out the type of information that will need to be submitted in regulatory proposals, and the form in which it should be submitted. This will both speed up the regulatory process and help ensure that proposals meet the requirements of the Rules. The process for developing information requirements for the ACT and NSW businesses has been consultative, and we intend to adopt similar processes for future resets as well.

The AER has also been developing guidelines and models to clarify the regulatory approach in distribution. These include guidelines on the asset base roll forward model, the post tax revenue model, a cost allocation guideline, and an efficiency benefit sharing scheme. The AER intends to release issues papers on these guidelines and models shortly. The AER looks forward to engaging with stakeholders in further developing these guidelines and models.

An advantage of this approach is that it gives businesses an opportunity to develop the necessary information systems well in advance.

Developing information requirements and guidelines has not been without its challenges. The new Law and Rules are not yet settled, meaning the AER does not yet know the precise framework under which it will operate. Therefore we have had to base our work so far on the exposure drafts of the Law and Rules, in the knowledge that these may be subject to change.

In addition to work undertaken in transitioning to the new legislative framework, the AER continues to improve existing regulatory processes. For example, in June the AER issued an issues paper proposing improved service standard incentives for electricity transmission companies. This reflects research indicating that transmission outages account for 30 to 40 per cent of total congestion costs. The proposed new service standards incentive scheme would reward transmission companies for reducing the number and duration of outages that have a market impact and providing more advanced notice of outages. Transmission companies should have better incentives to time outages in off-peak periods, conduct live line work and better co-ordinate outages. The AER is in the process of considering submissions on the proposals and should be in position to announce the next steps shortly.

#### **4. Network trends**

There has been a clear trend towards higher levels of network investment over the past few years. The primary drivers of this trend have been strong peak demand growth, ageing assets, shifting load locations and the need to accommodate new generation technologies and locations.

In Qld, for example, state-wide peak demand growth is around 4% per annum over the current five year regulatory period, and considerably higher in South East Queensland.

Higher input costs are also increasing investment expenditure. Plant costs have increased in response to strong demand from China and elsewhere. Labour costs in Australia are also increasing, in part because of the high investment activity.

The effect of these changes can be seen in the recent revenue decisions for Powerlink, with capex around twice the previous five year regulatory period, and SP AusNet, where ageing assets have required a planned increase in expenditure on replacement infrastructure by around 40%.

These higher levels of investment will increase transmission business revenues. However, the price impact on end users will be cushioned to some extent by higher demand for network services. For example, while Powerlink's

capital expenditure is up 40%, average network charges are expected to increase by around 3% per annum (in real terms).

## **5. Further industry reform**

Recent reviews of the energy industry have put forward recommendations that go beyond the reforms contained in the new NGL and amendments to the NEL.

Market structure – in particular, concentration in generation and vertical integration with retailing – was raised as an ongoing issue in the Parer review. A subsequent review by ERIG and the Owen inquiry in NSW have recommended that governments divest ownership of energy assets.

Also on the issue of ownership, the MCE last month released a regulatory impact statement setting out various options for limiting joint ownership of generation and transmission assets. This follows a CoAG decision in 2006 that generation and transmission activities should be structurally separated.

A further recommendation of the ERIG review was for a more centralised approach to market management and network planning. CoAG supported this recommendation, and has agreed to establish a national energy market operator by 2009. In addition to taking on the current responsibilities of NEMMCO and the gas market functions recommended by the Gas Market Leaders Group for a Gas Market Operator, the body will incorporate a national transmission planning function for electricity.

## **6. Conclusions**

The Australian energy sector has undergone, and continues to undergo, significant structural change. Regulatory challenges that arise, such as the potential exercise of market power by electricity generating businesses, must be met with a considered regulatory approach.

The current wave of regulatory reform in the energy sector is progressing smoothly. The proposed framework meets the objectives of consistency and predictability, balances the requirements of users (reliability and efficient pricing) and investors (ROI that reflects risks) and provides a firm basis for moving forward to meet new challenges, such as changing generation technologies, shifting demand profiles and greenhouse gas measures.

The AER is well advanced in planning for its new functions. We will continue to work closely with energy businesses and jurisdictional regulators for a seamless transition from local to national regulation, and to help ensure that Australia's power and gas requirements are met through sufficient — and efficient — investment.