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Historical Influences on Irrigation and Water Policy in the Murray-Darling Basin

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Water policy has been in the news more or less constantly for the last ten years. The main reason has been the extended and intense drought in south-eastern Australia that lasted until a year ago. The drought brought forth a plethora of responses, by both the Commonwealth and state governments. Rather than dwelling on these, the purpose of this paper is to place water policy in the context of the longer-run history of irrigation in the Murray-Darling Basin (MDB) of Australia. The results of past government intervention, the natural monopoly inherent in much (network) irrigation infrastructure, and the widespread unpriced environmental effects of irrigation, necessitated a carefully informed and subtle approach when further intervention was considered. Instead, water policy has been both constrained and led by decisions made in the past, and convoluted by an emerging environmental debate.

Background

Irrigation attracts enthusiasts, nationally and internationally (Leslie 2006); to the degree that cost-benefit analysis substantially owes its origins to official frustration with long-running and reckless public investment in irrigation projects in the United States. In Australia, after the failure of private attempts to establish irrigation settlements, state governments played a key role in irrigation development, creating large bureaucracies, ostensibly government-controlled, but in practice more or less captured by irrigation interests.

Irrigation was above all a manifestation of the ethos of nation building, expanded for mainly social reasons with scant attention to its economic prospects. Given the feckless attitude of governments when establishing maximum sizes for farms in closer settlement, many irrigation schemes started poorly with persistent low-income problems. For some irrigation areas and irrigators this has unfortunately continued. During the late 1980s and early 1990s, there was a serious attempt to apply the principles of microeconomic reform to rural water policy. However, the effort petered out under pressure from the drought and, just as importantly, the impact of past attitudes and practices in Australian irrigation. Put differently, the previous enthusiasm of Australian governments (and the public) for irrigation was not matched by physical and economic possibilities. So while the Australian economy more generally has undertaken a significant economic transformation over the past two decades, the economic difficulties of irrigation, identified by scholars such as Campbell (1964) and Davidson (1969), are still relevant. Irrigation and water policy in Australia is another area where there was a substantial divide between public opinion and the opinion of academics and public servants, based on their experience, factual knowledge and long-term commitment to understanding the issues.

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In addition to the legacy of irrigation history, the policy environment is now influenced by increased community concern for the environment. The expansion of irrigation over more than a century has greatly modified the river system (Hillman 2007). The policy dilemma is not only influenced by the biological and physical facts concerning the riverine environment, but also by the diversity and ambiguity of community attitudes towards the environment. As remarked by Harry Clarke (2010):

> [environmental] objectives are often highly uncertain. We often do not know what we really seek in environmental management because of ethical and environmental valuation uncertainties. Moreover, our objectives change markedly over less than [a] human lifespan … Think, for example, about the attitudes of Australians to flora and fauna conservation and the eclipse, within a human lifetime, of moves to build up a more resilient and interesting biodiversity via the acclimatisation movement.

Environmentalists are reluctant to accept that the multi-attribute nature of environment means that environmental policy involves difficult choices. Popular discussion usually fails to account for the critical difference between reversible and irreversible environmental changes. There are, in fact, common threads in environmental and economic analysis. In particular, the idea of sunk costs is key to rational water and environmental policy. Existing irrigation infrastructure is mostly worth using even in cases where it would not have been built if past government decisions had been based on a careful appraisal of its economic possibilities and environmental consequences. Nor could stopping irrigation now change the environment back to where it might otherwise have been.

Over time, the Commonwealth extended its influence in water policy. Originally, its involvement was in the funding of major developments like the Ord River scheme in the remote Kimberley District of Western Australia in the 1960s and the Burdekin Dam (far North Queensland) in the 1980s. Latterly, the Commonwealth has been even more involved because of emerging disputes over the amount of water extracted from rivers for irrigation and its impact on the environment. The involvement of the Commonwealth makes sense for the reasons of its increasing financial power and political reach, but particularly because the MDB is shared between four states and the Australian Capital Territory. Nevertheless, based on history, geography, economy, environment and amenity, there are deep-seated differences in the attitudes of the states, and the ACT, to the MDB. Adelaide and Melbourne are close to the MDB. Irrigation is also relatively more important in the agriculture of South Australia and Victoria than for New South Wales and Queensland. Sydney and Brisbane are distant from the MDB and political interest is less.

The irrigation industry of northern Victoria regards itself as connected with Melbourne in markets for goods and services and markets for inputs to production, except irrigation water. Victorian citizens freely move around Victoria in pursuit of passive and active recreation, and social intercourse. Irrigators willingly buy and sell water among themselves. However, such mobility does not pertain to water trading between Melbourne and irrigation districts – the needs of the people of Melbourne and its industry are thought off-limits by irrigators and local interests in irrigation districts.

Adelaide and much of South Australia depend on the MDB for most of its urban water supply, and have done so for more than sixty years (Connell 2007). This dependence of downstream South Australia on the MDB and environmental policy making has contributed to the tortuous politics of the MDB. Different river reaches and irrigation areas are affected by different environmental choices and trade offs. For example, maintaining some flow at the Murray Mouth, by making fresh water available to the Coorong and managing salinity in the Lower Lakes, compromises the potential to create or augment over-bank flows in upstream red-gum forests. This explains the intense South Australian interest in flow-related environmental phenomena and the dismissive attitude of some upstream commentators to the environmental values of the Coorong and Lower Lakes.

Interpreting the History of the Murray-Darling Basin

A summary of the history of Australian irrigation and water policy is provided by Warren Musgrave (2008) and another useful source is Daniel Connell (2007). Musgrave divides the history of irrigation and water policy into three phases – exploration, expansion and the 'mature water economy'. A fourth (contraction) phase can be added as several government policies are now directed towards reducing the amount of irrigation in the MDB. The most important manifestation of the evolving contraction phase is the current development of a Plan for water use in the MDB. This was foreshadowed in the Commonwealth Water Act of 2007 that received bipartisan support. A 'Guide' to the Plan has recently been released generating angst and acrimony in the irrigation communities. For reasons that will become clearer, irrigator acceptance of a prescriptive Plan for the MDB was going to be even harder to achieve than water policy reform.

Throughout the nineteenth century, settlers were confronted with Australia's unusual climate and

hydrology; in particular, the extreme variability of rainfall within and between years, and low average rainfall over inland areas – by international standards, the MDB is distinguished by the low flow for the area drained.[1] The riparian approach to property rights, suitable for European conditions with more consistent river flows and water supplies, was discarded in favour of state control over water resources. Further, a strong public presence in water and irrigation policy was guaranteed by the financial failure, and subsequent government rescue, of private attempts to develop irrigation schemes.

The second phase in Australian water policy Musgrave identified was expansion of irrigation over most of the twentieth century. In effect, the implication of rainfall variability for the economics of irrigation was insufficiently appreciated. Rainfall variability means that larger water storages are needed than other countries, and on-farm capital costs are higher because of the variable length of the irrigation season. While rainfall variability is a powerful argument against investment in irrigation; the opposite conclusion was acted upon. In addition, many products chosen for irrigation – like dairy, dried vine fruits and stone fruits – had poor prospects on export markets, and later had to be protected by home consumption schemes, import controls and other devices. The social tradition in irrigation areas – dependence on the state for provision of essential infrastructure and to provide support when things turn out differently from what was hoped – is different from the independent and market-oriented outlook of other Australian primary industries that are conditioned to managing climatic risks and the vicissitudes of commodity markets on their own account.

In microcosm, the sociology of Australian irrigation is reminiscent of the development by German-American historian Karl August Wittfogel (1957) of a theory of world historical development based on the need for hierarchy and control in the management of irrigation systems. Wittfogel recognised that irrigation and flood control require central coordination and a specialised bureaucracy. 'Hydraulic Despotism' or 'Water Monopoly Empire' asserts that the economies and societies of the first civilisations with agricultural production dependent on irrigation (in Asia, pre-Columbian Mexico, Peru and the Middle East) were stifled by these authoritarian political arrangements. In contrast, individual responsibility and enterprise flourished in European countries where agricultural production was based on natural rainfall.

More Recent Developments

The third phase identified by Musgrave, from around 1980, is often described as the 'mature water economy', following seminal papers by Bill Watson and Roger Rose (1980) and Alan Randall (1981). These authors argued that irrigation was pushed well past the point of diminishing returns in the wet decades from the 1950s to the 1970s, by which time the best sites for water storage were exploited. Demand for irrigation water was eventually pressing against available supplies with increasing evidence of serious environmental damage, especially from salinity.

A severe and widespread drought for much of the last decade exposed the consequences of over commitment of water resources to irrigation. Public attitudes were further affected by the huge algal bloom on the Darling in 1991 (that was exacerbated by low flows and increased irrigation in the Northern Valleys); ongoing salinity and water quality issues; and, especially for South Australia, potential water shortages for Adelaide coupled with environmental damage to the Lower Lakes and the Coorong. These concerns were eventually reflected in the Howard-Turnbull National Plan for Water Security of 2007 and a Water Act providing for the development of the Basin Plan based on the premise that, on average, the amount of irrigation would be reduced.

Furthermore, important changes in irrigation technology and engineering generally encouraged rapid expansion of irrigation in the Northern Valleys of the MDB through direct capture of overland flows with privately provided (and funded) on-farm irrigation infrastructure. Responding to the vagaries of rainfall, this water was overwhelmingly used for production of annual crops, especially cotton. By its fugitive nature, harvesting of overland flows is hard to measure and regulate. Property rights are hard to establish and regulate under conditions of such extraordinary variability of rainfall and runoff. In the southern-connected MDB, large greenfields horticultural developments along the Murray based on direct pumping further exposed the weakness of small farms in the old irrigation districts – gravity and pumped.

Economic reforms of the 1980s also had a strong influence on the MDB. In 1983, the floating of the Australian dollar, in particular, meant that made-to-measure or differential assistance to agricultural industries, irrigated or non-irrigated, became practically impossible. This was true irrespective of standard economic arguments concerning the efficiency costs of protection and the superiority of

[1]Environmental and economic issues of irrigated and non-irrigated agriculture are different. The frequent claim that 40 per cent of Australian agricultural output is from the MDB is misleading and has contributed to over-emphasis on the economic and environmental problems of the MDB relative to the rest of Australia. A hydrological definition of the MDB is inappropriate for socioeconomic issues because it includes areas that are effectively part of Adelaide and Melbourne – sensible policies for transport, health, education and social security are unrelated to the idea of catchment.

the tax-transfer system as a method of managing equity concerns. Deregulation of important irrigated industries – rice, dairying, citrus, dried vine fruits and stone fruits followed.

Much of Australia's present approach to water policy stems from political alliances and attitudes associated with the earlier dominance of irrigation in Australia. While there is little doubt that the policy of broad river regulation and encouragement of irrigation was superficially attractive and certainly popular, there has always been a tradition of healthy criticism.

The conceptual misunderstanding about irrigation, so elegantly demonstrated by Davidson (1969), was that large-scale publicly funded irrigation is unsuited to Australia's resource endowments and potential markets. Davidson's analysis was based on a disarmingly simple model of comparative advantage and production economics. When land is abundant, and capital and labour scarce, it makes no sense to apply limited, and variable, supplies of water to a small area of land. As discussed, irrigation has high capital and operating costs in Australia because water supplies are so variable.

Davidson's economy-wide perspective on the economics of irrigation involved research on domestic and international marketing and technical aspects of irrigation. He observed that irrigated horticulture in Australia has high unit labour costs especially for fresh produce, and is always vulnerable to competition from countries with lower wage costs in production and marketing. With growth of wine production in other countries, the same handicap now applies to the largest horticultural industry in the MDB.

Davidson includes the observation that

> the only factor that could change this conclusion [that Australians would be better off by concentrating on dry land farming] would be a rapid advance in irrigation technology which improved the position of irrigation in relation to dry land farming.

Differential rates of technical change and capital accumulation in irrigated and dry land farming have occurred for at least two reasons. First, the once-dominant Australian wool industry has declined, creating a hiatus in semi-arid areas for irrigated industries like rice and cotton. Next, highly developed irrigation technology from other countries is readily accessible to Australian farmers in an era of low protection. The relative cost of pumps and pumping has fallen precipitously, havingimportant consequences for irrigation, worldwide. On-farm engineering work and earthmoving equipment have also experienced a similar decline in relative cost. The broad-acre industries that Davidson and others saw as integral to productive Australian agriculture have to conduct much of their own R&D to adapt to local agricultural conditions. In comparative-advantage terms, irrigation is not as disadvantaged as it was in Davidson's day.

The fallacy of Australian 'irrigationism' was to concentrate on agricultural production per unit of area. Partial productivity measures have well-known limitations. The modern version of such incomplete economic reasoning is the concentration on the value of irrigated production per unit of water applied without considering other factors of production and the objective environmental effects of irrigation. The latter depend on the amount of water actually used, including its temporal and spatial distribution. Concentrating on the value of production per unit of water is one of the bases of wasteful public investment in on-farm and off-farm irrigation infrastructure. Whatever can be said about the technology of gravity irrigation, the reliability of the underlying physics is not in question.

Attempts at Reform

The advent of the mature water economy and acknowledgement of the adverse environmental effects of irrigation encouraged various attempts at reform. First, was the (mostly) successful introduction of water trade among irrigators and between irrigation areas that has been on the official agenda for almost twenty years, although irrigators exchanged water informally from the early days of irrigation. Not only for reasons of economic efficiency, water trade was also recognised as an opportunity to redress mistakes in locating irrigation in environmentally unsuitable areas. Water trade has allowed substantial greenfields horticultural developments that are able to take advantage of modern irrigation technology. Water trade also helps farmers manage climatic risks and adjust to the varying economic fortunes of different irrigated commodities. Detailed research shows water trade has been beneficial (National Water Commission 2010) and the overwhelming majority of irrigators support it.

Informal water trade accelerated in the early 1980s through farmers buying unproductive farms and 'amalgamating' them with their home properties – even if the farms were not contiguous. Once amalgamated, part of the water entitlement from the unproductive farm could be transferred to the home block. The farmer was then free to sell off the unproductive farm with little or no water (Department of Natural Resources and Environment, 2001). Formal trade was introduced, at different times in different states, in all southern states by 1987. Initially only 'temporary trade' (trade in annual allocations) was allowed, but 'permanent trade' (trade

in entitlements) was possible in all southern states by 1991.

Notably, gradualism characterises the development of water trade, and each of the Basin states has a different legislative framework surrounding property rights to water. Gradualism was, and is, a legitimate response to the perceived distributional and equity effects of water trade. Some water trading rules, such as initial restrictions on entitlement trade, can be interpreted as allowing irrigators and irrigation communities time to adjust to economic changes. Others, like the initial restrictions on carryover in some states, are operational; they reflect the difficulties of managing storages with variable inflows.

Nevertheless, water trading is resisted in some quarters, especially in regions that have been net exporters of water. Irrigators planning to increase production, realise their interests are served by low water prices. Low incomes caused by low commodity prices and the legacy of small farms associated with the history of irrigation settlement, are often mistakenly attributed to water trade. Governments have succumbed to these pressures and have allowed trade restrictions to persist and become distortionary, most apparently in Victoria (Quiggin, 2010a). In other southern states governments had effectively abdicated responsibility for removing barriers to trade out of irrigation districts. Quiggin (2010a) rightly points out, however, that 'policies aimed at preventing irrigators from selling their entitlements are collapsing under the weight of their own contradictions.'

The second important feature of the mature water economy phase was changes in the ownership and management of water-delivery businesses. Government ownership of these businesses in the expansion phase was as much an artefact of the role of irrigation in settlement policy as the failure of the first privately owned businesses, but was a way of curtailing market power of natural monopoly water supply authorities. Until the mature water economy phase, governments met all capital costs and operating costs were part subsidised by taxpayers in many instances. Frequently, they were also subsidised by future customers since operations were preferred to maintenance, if there were a funding shortfall.

It was recognised during this phase that deteriorating irrigation infrastructure and environmental damage associated with over-allocation of irrigation water could not be maintained forever. And during this phase, water supply authorities were expected to set charges to cover costs, including the cost of capital. Regulatory bodies were required to supervise this conceptually and empirically difficult task (Cummins *et al*, 2008). Different pricing principles have been applied to urban water consumers than to irrigators. Urban water consumers pay a rate of return on existing capital but irrigators do not. But there is no consistent or transparent economic logic in 'upper bound' and 'lower bound' pricing.

In New South Wales and South Australia, the reform of water supply businesses was extended to passing the delivery businesses into local ownership. In New South Wales, private companies, with the customers as shareholders, were set up on a 'club' basis to deliver irrigation water at the local level. This was intended to improve incentives for economic efficiency and deal with the excessive staffing endemic in the former irrigation bureaucracies. However, the way the Government established these businesses made it difficult for individual irrigators to transfer their water entitlements out of their districts.

Victoria, by contrast, kept the delivery businesses in government ownership but corporatised them. Trade out of Victorian irrigation districts was first allowed in 1994 after water-entitlement trade was introduced in 1991. However, to placate initial irrigator and local opposition, trade was limited to two per cent of total entitlements in the district. Initially this was not a significant barrier to trade.

The barriers to water trade out of irrigation districts in New South Wales and South Australian persisted for around fifteen years until the Australian Competition and Consumer Commission introduced 'transformation rules' giving shareholders explicit property rights in water entitlements along with separate rights in delivery infrastructure. In theory at least, irrigators in these districts can now sell their water entitlements at any time, and they can also sell their delivery entitlements or relinquish them on payment of a termination fee that must be no greater than ten times the annual fixed charges associated with that entitlement.

The barriers to trade out of Victorian irrigation districts continue despite the Victorian Government White Paper (2004, p. 80) flagging that

> charges for access to delivery infrastructure (paid annually or as a lump sum), will replace the [two per cent] rule, in softening the effect of trade on remaining irrigators.

However, the recent change of government in Victoria, and possible changes in other Basin States, mean that issues to do with trade are once more up for consideration.

Dealing with Environmental Issues

There was also significant progress on environmental issues during the mature water economy phase when the antecedents of the Murray-Darling Basin Authority (MDBA) started thinking about wetland health in the 1980s. The River Murray Commission released its *Survey of the Wetlands of the River*

Murray in 1986. Workshops in the early 1990s led eventually to the Murray-Darling Basin Commission's 1998 *Floodplain Wetland Management Strategy*.

Even before the wetland strategy had been articulated it had become obvious that the most immediate threat to environmental health was inadequate institutions surrounding the recently introduced water trade. Previously, water management agencies calculated seasonal allocations according to their understanding of storage levels and probable inflows combined with expectations of actual irrigation water use relative to announced levels of availability. Before water trade, water management agencies could be confident that not all water announced for the season would actually be used. If they did underestimate use, the shortfall was offset (at least partially) by reducing water for the environment. The introduction of water trade thus transferred even greater risk to the environment. The increasing activation of 'sleeping' (unused) and 'dozing' (partially used) entitlements meant that historical records were no longer reliable guides for anticipating future water use. Consequently, actual water usage was likely to be underestimated, and water for the environment more likely to be reduced (Cummins and Thompson, 2002).

The cap on diversions for the MDB introduced in 1995 (and completed in 1997) was designed to stop growth in environmental risk. With the benefit of hindsight it was mistaken to introduce a cap-and-trade system without first properly setting the cap. An active participant in policymaking at the time, John Kerin (2008) noted that a cap was first proposed for the MDB in 1988 but was delayed by wrangling between upstream and downstream states. Despite the strengthening of Commonwealth power over the MDB in recent years, these disagreements still exist. Arguably, the current divided situation in the Commonwealth Parliament and political changes within the Basin states will accentuate interstate disputes. If this proves to be the case, the long-term future of the Basin Plan now being developed by the MDBA is problematic.

A Contraction Phase or Backsliding?

A negative development in recent water policy is governments reverting to expensive engineering projects for off-farm and on-farm irrigation infrastructure. The ostensible objective this time round is water saving for the environment. The policies are flawed on hydrological grounds, and contradict accepted principles of public finance and administration (Productivity Commission 2010, Crase and O'Keefe 2009, Quiggin 2010a, 2010b). The burden of the criticisms of these writers is that claimed water savings are illusory because water is being shifted in the landscape rather than 'saved', as usually understood. The most obvious case is when improved irrigation technology reduces return flows. One irrigator's tail water is another irrigator's irrigation allocation.

The economic and administrative case for government supply of specialised off-farm and on-farm infrastructure for irrigators when other farmers and businesses pay for capital equipment themselves is weak. Simple calculations demonstrate that water could be purchased much more cheaply from irrigators than the costs of such infrastructure.

Governments are not well placed to make decisions on the merits of investments in irrigation infrastructure that also depend on commodity prospects and the financial strength of the irrigators who will use the new infrastructure. In many cases, irrigators will struggle to pay higher operating costs even if the capital costs of new infrastructure are initially subsidised.

The existing and proposed program of government investment in irrigation infrastructure is inconsistent given that the Commonwealth is now actively engaged in a program of buyback of irrigation entitlements, implying the judgement that current environmental costs of irrigation are greater than the economic benefits.

If you provide bad incentives, you get bad results. The superficial appeal of water saving via government-funded infrastructure investment has undone two decades of effort to get Australian irrigation to stand on its own feet.

Concluding comments

Several conclusions follow from arguments presented in this paper. Firstly, spending on irrigation infrastructure should be put on hold except for infrastructure that is designed to make environmental projects more effective. Next, water buyback should proceed more slowly while tangible environmental projects are sorted out. The *modus operandi* of the Commonwealth Environmental Water Holder needs to be established with regard to the institutional arrangements surrounding the Water Holder's standing in the market to both buy and sell allocations and entitlements. Finally, given current levels of rainfall, flow-related environmental issues *per se* are not urgent.

From the evidence available, the *Guide to the Basin Plan* does not reflect important lessons from the history of irrigation in Australia. The combination of climatic, scientific, political and economic uncertainty surrounding the MDB suggest that adaptive approaches based on analysis of the facts and circumstances of the existing situation would be preferable to a prescriptive Plan. Any Plan based on averages cannot take account of sunk costs,

environmental or economic. A clue to the possible arbitrariness of the calculations of the sustainable diversion limits set out in the Basin Plan is the broad similarity of the cutbacks proposed across the MDB, irrespective of location. *Prima facie*, differences would be expected between locations according to the economic characteristics of the irrigation practised and the potential costs incurred in environmental remediation, including the opportunity costs of environmental remediation. Implicitly or explicitly, a valuation process is required.

Perhaps, it is time to step back and accept that messy gradualism might be a better approach than the prescriptive legalistic approach now embodied in the Basin Plan. There is a continual propensity to 'start over' and create events with big announcements that are thought to be 'historic'. There would have been less fuss and more genuine progress if (say) one to three per cent of entitlements were purchased each year until the job was done, with learning and adaptation along the way.

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Critical Issues in Regulation – From the Journals

'Good and Bad Consistency in Regulatory Decisions', Flavio Menezes and Christian Roessler, *Economic Record*, 86, 275, December 2010, pp. 504-516.

This paper examines the sources of consistent regulatory decisions in a model where regulators respond to mixed incentives, including career concerns. The authors note that consistency is often cited as a good principle of regulation in both Australia and other jurisdictions. Consistency is often demanded by regulated businesses. Examples of regulatory consistency in regulation include similar regulatory decisions across industries (gas *versus* electricity), across jurisdictions (gas regulation across states) and across countries (competition law across European Union member states). The virtuous elements of consistent regulation are that it reduces compliance costs, increases the regulator's reputation capital and minimises regulatory risk. That said, should consistency be an objective in itself, since it would be better to have some good regulation and bad regulation *vis-à-vis* regulation that is consistently bad?

The authors explore three scenarios in which public servants have different motivations for pursuing consistent or inconsistent regulatory decisions. The different motivations take the form of different utility functions, where the public servant/regulator (the follower) may act consistently or inconsistently with the preferences of the government (the leader).

The first scenario is the reference case where regulators act as true 'public servants', and they strive to make the socially optimal decision, given limited information and the opportunity to observe the prior decision of another regulator. The publicly-minded regulator experiences disutility when there is a shortfall of the regulatory decision from the optimum. As a result, new and relevant information can change the public servants' dominant strategy. In this reference case, public servant regulators do not necessarily make the same decision, as the follower has more information than the leader, and updates its estimate of optimal policy accordingly.

In the second case, the regulators have career concerns in the form of a desire to avoid controversy, and because they seek consistency for the sake of avoiding controversy, they are labelled 'copycats'. The copycat regulator's utility function anticipates a penalty/disutility that increases in the discrepancy between regulatory decisions – the disutility arises from the anticipated government displeasure at regulatory action that exposes it to arbitrage, claims of favouritism and legal appeals. If the copycat regulator is a combination of public servant and copycat, it will balance its best estimate of optimal policy with its incentive to minimise the expected disutility of controversy.

In the third case, regulators also have career concerns, but this takes the form of a desire to implement their employer's (government or lobby groups) preferred policy. This type of regulator is the 'yes man'. 'Revolving-door' motivations are particularly relevant here – these regulators compete for future jobs at regulated firms by being soft. However, it can also include a regulator who understands that a particular decision is desired by the government that awards promotions and may have a policy bias. These regulators wish rigidly to follow the leader to minimise the expected disutility (loss of career prospects) from deviation with the leader's decision. If the yes man also experiences disutility from implementing sub-optimal policy, it faces a trade-off between doing what is best for the economy and what is best for its career.

The authors conclude that when regulators try to make socially optimal decisions, the arrival of new information may necessarily change the optimal decision, and the follower is likely to deviate from the leader. When an inherent preference for consistency (copy cat) or specific policy (yes men) is included in the model, the new information may be ignored and the follower matches the leader's decision, causing greater consistency. They argue that unguarded optimism about the observed trend toward consistency in regulatory decisions may be misplaced since it may be driven by career concerns. Such incentives arising from career concerns may result in suboptimal decision-making, as it does not make use of available and pertinent information.

'Energy Regulation in a Low Carbon World', Richard Green, in *Harnessing Renewable Energy*, Boaz Moselle, Jorge Padilla and Richard Schmalensee (eds), RFF Press, January 2010, pp. 1-35**.**

This paper discusses the implications of a shift to renewable energy for the way in which energy companies are regulated. Given the impacts of greater renewable energy usage on energy utilities' operations and costs, Green considers whether regulators' objectives, or the factors they take into account when deciding how to achieve those objectives, should be adjusted accordingly. The paper also considers whether, given the likely

challenges associated with renewable-energy sources, more competitive models of energy regulation will continue to offer superior economic outcomes to more traditional, highly regulated models. Four models of economic regulation are examined: retail competition, wholesale competition, single buyer, and integrated firms.

Increasing the use of renewable energy will have significant impacts on the operations and costs of energy utilities. Most sources of renewable energy will cost more to supply than conventional energy sources. Moreover, a shift to renewable energy will create a need for significant investment in network infrastructure to accommodate the different energy sources. As such, energy utilities are likely to experience a sharp increase in capital costs. Green further notes that the adoption of carbon-trading schemes may alter the level and composition of the industry's capital stock. Energy utilities will also need to adjust to the intermittent output levels of many renewable energy sources, such as wind generators. This will have implications for the amount of energy system operators must keep in reserve, particularly to cope with peak demand periods.

Green identifies a number of regulatory implications arising from these trends. Regulators will need to respond appropriately to the changing investment requirements, and associated costs, of energy utilities. Importantly, regulators will need to allow utilities to collect (from consumers) the higher costs associated with renewable energy generation, network investment and changing operations. Further, the weight that regulators should place on different cost components, when setting incentives for network businesses, is likely to be affected. Green argues that, if the industry's cost structure shifts away from operating costs towards capital costs, incentives for efficient operation should be relaxed, while incentives for efficient investment should be strengthened.

Finally, with a shift to renewable energy, the number of small electricity generators seeking to enter the market is likely to increase. All energy producers connected to the network must be subject to the network operator's standards and commercial arrangements. As such, it will be important for regulators to ensure that these arrangements are suitable, and not undesirably prohibitive, for small-scale generators.

Green concludes that, while the shift to renewable energy will change the detailed decisions that economic regulators need to make, it will not alter the fundamental tasks or nature of economic regulation. That is, the fundamental regulatory objective of minimising the price of energy, while ensuring sufficient investment to maintain security of supply, should not change.

In addition, while regulators need to play an important role in developing supporting protocols and standards for new business approaches, competitive environments are likely to lead to superior, more innovative outcomes during the switch to renewable energy. It is noted that integrated regulated firms may be better placed to coordinate the development of the network. However, competitive mechanisms tend to lead to better investment decisions, which will be particularly important during a period of high investment and technological change.

'The Impact of Australian ETS News on Wholesale Spot Electricity Prices: An Exploratory Analysis', Julien Chevalier, *Energy Policy*, 38, 2010, pp. 3910-3921.

This paper examines the effects of news concerning the development of emissions trading in Australia (such as the Carbon Pollution Reduction Scheme (CPRS)) on wholesale electricity spot prices. Chevalier's paper represents the first empirical analysis regarding the impact of Australian emissions trading news on electricity wholesale spot prices.

The Australian Government announced its proposed nationwide CPRS in a White Paper released on 15 December 2008. The scheme initially proposed reductions in Greenhouse Gas (GHG) emissions of 60 per cent by 2050 (relative to 2000 levels), with additional interim targets of 30 per cent by 2020 if a global agreement is concluded, and 5 per cent otherwise. While the scheme was initially due to commence on 1 July 2010, it was delayed by one year in order to pass the Senate vote. At the article's time of writing, this vote was still pending; however, after publication, the Senate rejected the CPRS, meaning that it is now not scheduled to begin.

The proposed CPRS was to cover approximately 75 per cent of Australian emissions. Power producers account for a large proportion of participants to be covered by the scheme. As a result, specific details of the CPRS regulatory framework, such as permit allocation, targets, coverage and banking, were likely to affect the interconnected electricity markets in New South Wales, Queensland, Victoria, Tasmania and South Australia.

Chevalier examines the effects of a range of news events on wholesale spot prices, from December 1998 to July 2009. News events examined include announcements about the development of Australian emissions trading; the introduction of NSW Greenhouse Abatement Certificate (NGAC) trading; the commencement of Voluntary Emission Reductions (VERs) trading and forward trading of Australian Emissions Units (AEUs) on the Australian Climate Exchange (ACX); the release of the Australian Government's CPRS Green and White Papers; the release of the Garnaut Review on

Climate Change; and the decision to delay CPRS implementation.

The analysis indicates that there are two main effects of news announcements on electricity wholesale spot prices. Firstly, news announcements concerning the development of emissions trading in Australia, the launch of AEU trading and the delay of CPRS implementation appear to have increased both the level and volatility of electricity wholesale spot prices. This result indicates that such news events create uncertainty amongst market participants, and lead to fears about the costs of future environmental regulation.

Secondly, the publication of institutional information by the Australian Government and the commencement of NGAC trading appear to have decreased the level and volatility of electricity spot prices. This result indicates that the provision of official and reliable information (such as guidelines), in addition to evidence that environmental markets can work, reduces fear and uncertainty amongst market participants.

Chevalier's paper concludes that generating confidence in environmental market mechanisms decreases electricity spot prices, while creating uncertainty about rising regulatory costs increases electricity spot prices. These findings demonstrate that Government policies and announcements can play an important role in convincing market participants that the implementation of mandatory greenhouse gas emissions reductions will yield positive business outcomes.

'The Entry Cost Shock and the Re-rating of Power Prices in New South Wales', Paul Simshauser, Elizabeth Molyneux and Michelle Shepherd, *Australian Economic Review*, 43, 21, 2010, pp. 114-135.

This paper provides a regulated-firm perspective on the re-rating of power prices in New South Wales. The authors argue that a decade-long state of electricity oversupply has underpinned low and stable power prices in New South Wales, and while plant capital costs have been increasing, the cost of capital has been declining. These factors, argue the authors, resulted in a stable wholesale market price of $35 to $40/MWh over the period 2000 to 2007. However, from 2007, a simultaneous and sharp increase in both new entrant plant capital costs and the cost of capital occurred. The entry-cost shock disrupted a seven-year-long equilibrium price, with average power system costs rising to $60/MWh.

In real terms, power prices in NSW have been on a continual downward trend from 1955 to 2004. This decline has been attributed to technological advances of power generating systems, substantial increases in the scale of plant (with unit sizes increasing from 30 MW to 660 MW turbogenerator) and improvements in the aggregate system load factor, arising from mining and manufacturing loads.

Historically, NEM base-load power prices have tended to gravitate towards the (perceived) long-run marginal cost (LRMC) of power generation plant at the end of the forward curve. In New South Wales and the NEM, the LRMC is thought to have been between $35 and $40/MWh over the period 2000 to 2007. The drought of 2007, however, had a sudden impact on wholesale electricity prices and marked the end of oversupply that the NEM had inherited from the previous state-based regime. The drought was quickly followed by a cost shock in the manufacturers' market for plant equipment arising from escalating labour costs, sharp increases in material input costs and a requirement for higher-efficiency plant given emerging green-house constraints.

The authors argue that lower station capacity additions before the cost shock were comparatively small due to the oversupply that already existed from the pre-reform era. The authors also argue that, while the sharp escalation in plant costs was transparent to the broader market, these new plant costs were not disclosed to entrants in a consistent manner.

The authors further argue that the Global Financial Crisis (GFC) and the subsequent sharp increase in the cost of capital that followed were also unanticipated events. In the five years preceding the GFC – between the end of the last business cycle in 2002 and to the third quarter of 2007 – the cost of debt and equity capital fell. However, between 2007 and 2009 they observe a sharply rising pre-tax cost of debt and a minor increase in the cost of equity, with an overall increase in the weighted average cost of capital.

The authors argue that since plant costs and the cost of capital combined drive approximately 55 per cent of the aggregate wholesale electricity prices, the increase in plant cost and cost of capital had necessitated an increase in average power system cost pass-through.

The authors highlight the necessity of cost pass-through by referring to the downside of not doing so, which they argue became manifest in the Californian and Western Australian energy crises. The authors note that the Californian crisis had arisen because of rising energy demand, heavy reliance on large imports from neighbouring regions for system security, difficult economic entry conditions given the low headroom, increasing exposure of spot prices; natural gas price forecasts in contango (price for future delivery is higher than the spot price), an imminent emissions trading market, suboptimal

activity in the forward market for electricity and retail tariffs at odds with wholesale market conditions.

The lack of cost pass-through (tariffs were frozen for 11 years from 1997-98), the unexpected collapse in a gas resource, higher energy generation costs and increase in demand were ascribed as the causes of the Western Australian energy crisis and the subsequent rapid escalation in electricity prices. While there were multiple causes of both crises, the authors largely attribute the setting of tariffs below cost and lack of cost pass-through as the key triggers.

The authors conclude that, for most of this decade electricity prices have remained constant. However, the drought, followed by the increasing plant capital costs and the cost of capital had necessitated a permanent and sharp increase in prices. The authors highlight the parallels between the state of the electricity market before the Independent Pricing and Regulatory Tribunal (IPART) lifting prices, and the conditions that prevailed prior to the Californian energy crisis, intimating that IPART had forestalled a potential crisis. And using the WA crisis as an example, the authors argue that retail tariffs need to keep pace with wholesale market conditions to avoid the cost shock to end users.

'Economic Transmission Augmentation with Explicit Modelling of the Competition Benefit' Mohammad Hesamzadeh, Darryl Biggar, Nasser Hosseinzadeh and Peter Wolfs, *IEEE Transactions on Power Systems*, 25, 3, August 2010, pp. 1714-1721.

The paper brings together both engineering concepts and economic ideas (such as game theory) to explain how economic transmission augmentation generates efficiency and competition benefits.

In the last 15 years there has been something of a revolution in the way the electric power system has been operated. In the past, operation and investment decisions in the power system were the exclusive domain of electrical engineers, but more recently, power system engineers have had to learn about the operation of markets – and economists have had to learn about the engineering of power systems. To many power-system engineers, who are still getting used to the operation of the electricity market, the concept of market power is a new and foreign concept, and they are still working out how to incorporate market power into their traditional thinking and methodologies.

This applies, in particular, to the field of transmission network planning. Electrical engineers have a well developed set of tools for transmission planning. These tools allow transmission planners to understand the impact of an upgrade on the transmission network to, for example, allow cheaper power to be imported from other regions, to improve reliability, or to reduce the requirement to hold reserves. However there is, as yet, no widely accepted method for taking into account the effect of a transmission upgrade on the exercise of market power by generators.

In the Australian National Electricity Market (NEM), transmission network service providers must undertake a cost-benefit test ('Regulatory Investment Test for Transmission') before undertaking any major network upgrade. The Australian Energy Regulator (AER) issues guidelines governing how that test should be carried out, and these currently explicitly allow for the modelling of strategic behaviour by generators when considering the impact of a transmission upgrade and indicate how the total benefits of an upgrade can be decomposed into the so-called 'efficiency benefits' and the 'competition benefits'.

This paper proposes an explicit method for modelling market power in the context of the assessment of a transmission upgrade. The analysis uses some advanced techniques in constrained-optimisation theory. To solve the problem of multiple Nash equilibria, the authors propose focusing on the 'worst case scenario' and then selecting the transmission upgrade which offers the best social-welfare outcome in the corresponding worst-case. A useful next step will be to see if this approach, which works for small 'test' models, can be made to work in practice on a system as large and complex as the Australian NEM.

'Water Scarcity: Can Virtual Water Operators Help?', Fernando Dominguez, *Utilities Policy*, 30, 2010, pp. 1-6.

Fernando Dominguez's analysis demonstrates that introducing virtual operators into the water market may lead to new entrants internalising the real value of water, and may provide regulators with an estimate of this value. Regulators in the water and sewerage sector must consider how to effectively signal the true value of water in response to potential stress on water and sewerage sectors, arising from a changing climate and population growth. In England and Wales, monopolies that provide water and sewerage services currently only pay an administrative cost for water abstraction licences. However, writes Dominguez, the cost of abstraction does not reflect the scarcity or overall demand for water. In addition to improving abstraction licence arrangements, policy-makers are currently considering a range of upstream reforms to facilitate entry into the market and to ensure upstream market participants face the real cost of water. The introduction of virtual-water operators is one approach under consideration.

Virtual operators operate in the market via a contract with the current monopolist. This contract would allow the virtual operator to treat a certain amount of water (produced by the monopolist) as if the virtual operator were the actual producer. Virtual operators have previously been introduced in a number of network industries – including telecommunications, electricity and gas – to facilitate upstream market entry.

The existing economics literature on virtual operators is limited, and predominantly focuses on the incentives faced by mobile telecommunications network operators to grant network access to virtual network operators. Dominguez's paper, however, is also related to a growing literature that considers the interaction between service-based competition and facilities-based firms. Using a game-theoretic model, in which potential market entrants bid for a contract to become a virtual water operator, Dominguez draws a number of key conclusions about the effect of virtual water operators on the price of water. Firstly, his analysis demonstrates that virtual water operators may provide an effective means of ensuring that the real value of water is reflected in the market, without the need for permanent changes to the industry structure. Secondly, if a market for abstraction licences exists (and the licence price reflects the real value of water), new entrants will internalise the real value of water into their bid to become a virtual water operator. This is because, as water scarcity increases, the price of abstraction licences will rise, leading to a higher expected cost of entering the market through infrastructure development. This result may hold even if abstraction licences do not reflect the real value of water. Virtual operators, combined with a limit on the amount of water available for extraction, may be sufficient to introduce the real value of water into the market. When water is scarce, firms will be prepared to pay more to become a virtual operator, which will translate into higher prices in water-scarce areas.

'Vertical and Horizontal Separation in the European Railway Sector and its Effects on Productivity' Pedro Cantos, Jose Manuel Pastor and Lorenzo Serrano, *Journal of Transport Economics and Policy*, 44 Part 2, May 2010, pp. 139-160.

This paper reviews the evolution of vertical and horizontal separation in the European railway industry from 1985 to 2005 and evaluates its impact on the productivity of 16 national railway systems.

Over the sample period, many of the European countries gradually undertook economic reform of their railway industries in two dimensions. In the vertical dimension, separation of railway infrastructure and operation evolved in three stages, namely accounting separation, independent management, and institutional separation. In the horizontal dimension, reforms have been more recent and fewer, but their occurrence often took the form of franchising in passenger services and free entry in freight services. The restructuring of the railway sector is heterogeneous among the European countries reviewed, which are classified into four groups – countries without reform (e.g., Spain), countries with vertical reform only (e.g., France), countries with horizontal reform only (e.g., Germany) and countries with both vertical and horizontal reform (e.g., Sweden).

The authors use a non-parametric linear programming technique to measure efficiency and productivity performance of sampled national railway systems, producing two outputs (i.e., passenger transport and freight transport) with four inputs (i.e., labour, passenger train, freight train and railway network). The productivity changes over time are also decomposed into efficiency change and technical change. A second-stage multiple-regression analysis that examines the key determinants of efficiency and productivity performance is also conducted.

The results show that:

- Countries with the greatest efficiency improvements are those that have undertaken both vertical and horizontal separation.
- The main source of productivity growth is technical progress.
- Both the vertical separation and the free entry in freight services encourage greater productivity. However, the benefit from tendering in passenger services is not statistically significant.

The authors recommend that vertical separation should be used in conjunction with horizontal separation to promote competition and foster efficient and productive performance of railway systems. A future direction of research, as suggested by the authors, is the examination of more recent horizontal separation process when data become available.

Regulatory Decisions in Australia and New Zealand

New Zealand

Price of National Mobile Roaming to Remain Unregulated

On 15 December 2010 the Commerce Commission announced that it will not investigate whether the national mobile roaming service should be extended to include price because there are adequate commercial arrangements in place. **Link**

TSO Determinations for 2009/10 Released by Commerce Commission

On 15 December 2010 the Commerce Commission released its **final determinations** for the period 1 July 2009 to 30 June 2010 on:

- the cost of the Telecommunications Relay Service (TRS) for the hearing impaired; and
- the proportion of the cost to be met by each party liable to contribute to the cost of the TRS and Telecom New Zealand's local residential telephone service obligation.

Price-quality Path Decision for Electricity Distribution Businesses Released

On 30 November 2010 the Commerce Commission released its decision to amend the determination setting out the default price-quality path (DPP) applying to electricity distribution businesses (EDBs) for the period 2010-2015. The DPP comprises a price path that places an upper limit on the aggregate prices that EDBs may charge, and also the quality standards that EDBs must meet in supplying electricity lines services to customers. The amendment modifies the formulae used by the Commerce Commission to assess whether an EDB has complied with its price path by including a 'revenue differential term'. The primary reason for this amendment is to ensure that the assessment formula is not affected by the prices an EDB has charged previously within the regulatory period. **Link**

Final Consultation on Input Methodologies for Transpower

On 12 November 2010 the Commerce Commission released its revised draft input methodologies determination for Transpower for technical consultation. This is expected to be the last consultation step before the input methodologies for Transpower are finalised at the end of December 2010. **Link**

Final Consultation on Input Methodologies for Gas Pipeline Services

On 1 November 2010 the Commerce Commission released its revised draft input methodologies determinations for gas pipeline services for technical consultation. **Link**

Commerce Commission Assumes Responsibility for Grid Upgrade Plan Approval

See Notes on Interesting Decisions.

Final Consultation on Input Methodologies for Electricity Distribution Services

On 22 October 2010 the Commerce Commission released its revised draft input methodologies determination for electricity distribution services for technical consultation. **Link**

Commerce Commission Opens Investigation into Telecom's Compliance with Separation

On 15 October 2010 the Commerce Commission announced it had launched an investigation into an alleged breach of Separation Undertakings by Telecom Corporation of New Zealand. The investigation will assess whether Telecom Wholesale is likely to have discriminated against telecommunications providers in favour of Telecom Retail. **Link**

Revised Draft Information Disclosure Determination for Airport Services Released

On 11 October 2010 the Commerce Commission released a revised draft information disclosure determination for specified airport services, for technical consultation. The draft information disclosure determination should be read in conjunction with the revised draft airports input methodologies determination released for technical consultation on 1 October 2010. It's intended the information disclosure determination for specified airport services will be finalised by 31 December 2010.

- **Revised Draft Information Disclosure Determination for Airport Services - 11 October 2010**
- **Final Consultation on Input Methodologies for Airport Services - 1 October 2010**

Australian Competition and Consumer Commission (ACCC)

ACCC Issues First Water Monitoring Update

The ACCC is required under the Water Act to monitor regulated water charges, transformation arrangements and compliance with the water market rules and water charge rules. The ACCC is also required to provide a report to the Minister on its monitoring activities. It has thus issued its first ***Water Monitoring Update***, which provides the ACCC's early views of the effects of recent water reform. The ACCC is currently developing its monitoring framework further and will provide a comprehensive monitoring report for 2009-10 to the Minister by March 2011.

ACCC Releases Telecommunications Reports for 2008-09

The ACCC has released the ***Telecommunications Reports*** for 2008-09, as required under the *Trade Practices Act 1974*. This publication contains two reports: *Telecommunications Competitive Safeguards for 2008–09* and *Changes in Prices Paid for Telecommunications Services.* The ACCC found that Australian telecommunications markets are continuing to evolve, particularly the mobile platforms and data services provided over fixed and mobile networks. Furthermore, prices for some services fell during 2008-09. However, consumer complaints have continued to increase and the industry continues to rely heavily on regulatory mechanisms to promote and achieve competitive outcomes. There is also an extremely high level of disputation and litigation. Nevertheless, the ACCC considers that there are a number of developments with the potential to increase competition in telecommunications markets and alter the form of access regulation that is likely to be required in future. These include the government's proposed reforms to the telecommunications access regime and the announced deployment of the National Broadband Network (NBN).

ACCC Announces Domestic Benchmarking Approach to Transmission Pricing

The ACCC has issued a **Position Paper** as part of its Domestic Transmission Capacity Service (DTCS) pricing review, where it announces its proposed domestic benchmarking approach to transmission pricing. The proposed approach is based on the domestic benchmarking of prices on competitive transmission routes. It is supplemented by information from service providers and other sources. The proposed approach follows the ACCC's public consultation on DTCS pricing in 2010.

ACCC Consults on Revised Hunter Valley Rail Access Arrangements

The Australian Competition and Consumer Commission (ACCC) has issued a **consultation paper** on a revised Hunter Valley rail network access undertaking submitted by the Australian Rail Track Corporation (ARTC) on 7 September 2010. The ARTC originally submitted a proposal to the ACCC in relation to the Hunter Valley network in April 2009, but withdrew that application in April 2010. The deadline for submissions on the consultation paper was 11 October 2010.

Australian Energy Regulator (AER)

Tribunal Decides on AER Access Arrangements for ACT, Queanbeyan and Palerang Gas Distribution Network

The Australian Competition Tribunal (Tribunal) has handed down its **decision** on an appeal by ActewAGL Distribution (ActewAGL) against the AER April 2010 decision on the access arrangement for the ACT, Queanbeyan and Palerang gas distribution network. The Tribunal established a ground for review of the AER's approach in estimating the debt risk premium, when determining the cost of capital. The Tribunal's decision increases ActewAGL's debt risk premium to 3.89 per cent from 3.35 per cent, resulting in the allowed cost of capital increasing to 10.04 per cent from 9.72 per cent. It also increases the allowed total revenue of ActewAGL by around $5 million to $283.5 million. This additional revenue will be recovered from network users in future years through higher network tariffs. The effect of this decision is that the network component of an average residential customer's bill will increase on 1 July 2011 by 12 per cent, rather than the 9 per cent approved by the AER, plus CPI.

AER Consults on Approach for Measuring Debt Risk Premium

The AER is **reconsidering** its approach of relying on estimates from data service providers, such as Bloomberg and CBASpectrum, to estimate the debt risk premium (DRP) for use in the Victorian Electricity Distribution Determination. This late change has been necessitated by the cessation by CBASpectrum of its publication of fair value estimates and by the decision of the Australian Competition Tribunal in the **ActewAGL matter** handed down on 17 September 2010. The AER is proposing to adopt an amended process for calculating the DRP, which takes into account the Bloomberg fair value estimates, the recently released Australian Pipeline Trust bond, and relevant information provided by other corporate bonds. As this is a significant departure from the draft decision, the AER is offering stakeholders an

opportunity to comment on this position and its reasoning.

AER Issues Final Decision and Final Determinations for Electricity Distribution

The Australian Energy Regulator (AER) has made its **final decision and determinations** on the regulatory proposals submitted by the five Victorian electricity distributors: CitiPower, Powercor, JEN, SP AusNet and United Energy. The decision and determinations cover the regulatory control period from 1 January 2011 to 31 December 2015 and sets the revenue that these distributors are able to recover for the provision of electricity distribution services.

AER Issues Final Decision on the DMIS for Aurora Energy from 2012-13 to 2016-17

The AER has issued its **final decision** on the Demand Management Incentive Scheme (DMIS) for Aurora Energy from 2012-13 to 2016-17. The DMIS provides incentives for distribution network service providers (DNSPs) to seek out and undertake alternatives to traditional network augmentation in response to increases in peak or general demand. It is designed to incentivise the implementation of efficient non-network alternatives, or to manage the expected demand for standard control services in some other way. The DMIS developed by the AER will apply to Aurora Energy in the context of the preliminary positions framework and approach paper for DNSPs in Tasmania, published on 25 June 2010.

AER Publishes Consultation Paper and Draft Reporting Guideline

The Australian Energy Regulator (AER) has released a **draft Guideline** on the imposition of additional or more onerous requirements, procedures or standards under clause 8.7.2(g) of the National Electricity Rules (NER), and a **consultation paper** on its approach to additional reporting requirements for National Electricity Market participants and the Australian Energy Market Operator relating to the guideline. The purpose of the Guideline is to set out those matters the AER has to consider before it decides on the allocation of costs of any additional or more onerous requirements, procedures or standards under clause 8.7.2(g) of the NER. The deadline for submissions on the consultation paper is 31 December 2010.

National Competition Council (NCC)

Application for Certification of the South Australian Ports Access Regime

On 15 October 2010 the NCC received an application from the Premier of South Australia, the Hon Mike Rann MP, under s44M of the Trade Practices Act, for the certification of the South Australian Ports Access Regime established under the *Maritime Services (Access) Act 2000* (SA). The submission period ended on 22 November 2010. **Link**

Application for Certification of the Western Australian Rail Access Regime

Submissions to the NCC's 17 August 2010 draft recommendation were due on 6 October 2010. On 12 May 2010 the NCC received an application from the Premier of Western Australia, the Hon Colin Barnett MLA, under s44M of the Trade Practices Act (TPA) for the certification of the Western Australian Rail Access Regime established under the *Railways (Access) Act 1998 (WA)* and the *Railways (Access) Code 2000*. The NCC's preliminary view is that the WA Rail Access Regime meets the requirements for certification and should be certified as effective until 31 December 2015. **Link**

Applications for Declaration and Certification of the Queensland Rail Network

On 22 November 2010 the NCC provided its final recommendation to the decision-making Commonwealth Minister, the Parliamentary Secretary to the Treasurer, the Hon David Bradbury MP, on the application for certification of the Queensland Rail Access Regime. **Link**

Australian Energy Market Commission (AEMC)

On 24 November 2010 the AEMC has **released** the Stage 1 Final Report and the Stage 2 Draft Report in its review of the effectiveness of competition in the electricity retail market of the ACT. The reports maintain the draft finding, that competition is not effective in the ACT electricity retail market. Given this finding, the AEMC is required to provide advice to the Ministerial Council on Energy on ways to promote competition in the relevant market. This analysis and draft advice is provided in the Stage 2 Draft Report.

Australian Capital Territory

Independent Competition and Regulatory Commission (ICRC)

ACT Greenhouse Gas Emissions Reduction Target Inquiry – Commission Submission on Cost Effectiveness Analysis

On 24 August 2010, the Standing Committee on Climate Change, Environment and Water tabled its Final Report in the Legislative Assembly. On 9 December 2010 the Minister tabled the Government's response to the Final Report. The Interim Report, the Government's Response and the Final Report are available **here**.

Energy Industry Levy and Utility Licence Fee Determinations 2010-11

On 12 October 2010, the Senior Commissioner made the 2010-11 annual utility licence fee determinations. **Link**

New South Wales

Independent Pricing and Regulatory Tribunal (IPART)

Discussion Paper – Developing the Approach to Estimating the Debt Margin

On 12 November 2010, IPART announced it had identified weakness in the approach for estimating debt margin and was therefore conducting a review of available data sources. Stakeholder comment was due by 10 December 2010. **Link**

Draft Report and Determination – Prices for the Water Administration Ministerial Corporation

On 18 October 2010 IPART released for public comment a draft determination of the prices that the NSW Office of Water (acting for the Water Administration Ministerial Corporation) can charge water users for water management activities. The determination will be finalised in February 2011. **Link**

Energy Price Comparison Website

On 1 October 2010 IPART introduced the 'Myenergyoffers' website, providing customers with free electricity and gas price comparisons from each of the gas and electricity retailers. It aims to improve price disclosure and competition in the NSW retail energy market. **Link**

Northern Territory

Utilities Commission

Review of Electricity Standards of Service for the Northern Territory

On 6 December 2010 the Utilities Commission released the Final Report for the Review of Electricity Standards of Service for the Northern Territory. **Link**

Review of Electricity System Planning, Monitoring and Reporting

On 3 December 2010 the Utilities Commission released the Issues Paper for the Review of Electricity System Planning, Monitoring and Reporting, setting out the Commission's preliminary views on the provision of a secure and reliable power system for customers. Feedback is required by 14 January 2011. **Link**

Review of Options for the Development of a Retail Price Monitoring Regime for Contestable Electricity Customers

On 28 October 2010, the Utilities Commission released the Final Report for the Review of Options for the Development of a Retail Price Monitoring Regime for Contestable Electricity Customers. **Link**

Queensland

Queensland Competition Authority (QCA)

Review of Electricity Retailer and Distributor Credit Support Arrangements

On 23 September 2010 the QCA released its Draft Decision on the Review of Electricity Retailer and Distributor Credit Support Arrangements. Recent changes to the *Electricity Act 1994* (Electricity Act) and the *Queensland Competition Act 1997* require the QCA to develop guidelines for the credit support arrangements between electricity retailers and distributors (the Credit Support Guidelines). **Link**

2010 Draft Access Undertaking (QR Network)

On 1 October 2010, the QCA released its final decision to approve QR Network's resubmitted 2010 Draft Access Undertaking (DAU), setting out the terms and conditions under which QR Network provides access to rail infrastructure covered by the undertaking. On 15 April 2010, QR Network had withdrawn its 2009 DAU and submitted a new voluntary DAU (the April 2010 DAU) for approval. **Link**

2008 Access Undertaking Amendments + Activities: 2009-10 Adjustment Charge

On 29 October 2010, the QCA released its final decision to approve QR Network's 2009-10 adjustment-charge proposal. On 9 September 2010, QR Network had submitted a 2009-10 adjustment-charge proposal to the Authority for approval, seeking to recover an additional $161 million from users. This amount reflected the difference in the current and newly approved access charges (since 1 July 2009) and the interest accrued on that difference. **Link**

Dalrymple Bay Coal Terminal (DBCT) Access Undertaking Amendments and Activities

On 28 October 2010, the QCA approved the updated parameter estimates, which result in a WACC of 9.86 per cent (down from the estimate of 10.31 per cent in the QCA's decision) and a reference tariff of $2.77 per tonne to apply to the terminal assets as at 1 January 2011. **Link**

South Australia

Essential Services Commission of South Australia (ESCOSA)

Economic Regulation of the South Australian Water Industry

On 14 December 2010 the ESCOSA announced that, in accordance with the Treasurer's request, it has prepared a Statement of Issues to facilitate public consultation on many of the detailed aspects of the regulatory arrangements that the Commission will need to develop for the water and sewerage industry. The ESCOSA is requesting written submissions to this paper by 28 January 2011. **Link**

2010-11 Potable Water and Sewerage Pricing Processes Inquiry – Final Report

On 7 December 2010 the ESCOSA announced it had finalised its Inquiry into the process that led to Cabinet's decision on SA Water's potable water and sewerage charges to apply in 2010-11. **Link**

See Notes on Interesting Decisions

2010 Gas Standing Contract Price Path Inquiry

On 19 November 2010 the ESCOSA announced it had commenced an inquiry, following a submission from Origin Energy, into the appropriate price to be fixed as the gas standing contract price for the period 1 July 2011 to 30 June 2014. Submissions were sought by 17 December 2010. **Link**

Heatwave Disconnections Policy – Final Decision

On 5 November 2010 the ESCOSA announced it had amended the Energy Retail Code and the Electricity Distribution Code, (with effect from 8 November 2010), to refine the provisions prohibiting the disconnection of small customers for non-payment of their electricity bills during 'heatwave conditions'. **Link**

2010 Electricity Standing Contract Price Path Inquiry – Submissions from the Minister for Energy

On 25 October 2010, the ESCOSA received a submission from the Minister for Energy to the 2010 Electricity Standing Contract Price Path Inquiry – Draft Inquiry Report. On 17 May 2010, the Commission commenced an Inquiry into Electricity Standing Contract Prices it should fix to apply from 1 January 2011 to 30 June 2014. The final report was anticipated in November 2010. **Link**

Review of Reporting Momentary Interruptions to Electricity Supply by ETSA Utilities

On 26 October 2010 the ESCOSA announced it was seeking stakeholder views on the Regulatory Reporting of Momentary Interruptions to Electricity Supply – Issues Paper and consultant reports regarding the cost and benefits of reporting momentary interruptions by ETSA Utilities. **Link**

2010 Electricity Standing Contract Price Path Inquiry – Additional Submissions from AGL

On 19 October 2010 the ESCOSA announced receipt of a submission from AGL SA regarding the costs of meeting the Small-Scale Renewable Energy Scheme (SRES). Feedback to this submission was due by 2 November 2010. **Link**

Advice to The Treasurer on Economic Regulation of Water Services in South Australia

On 17 October 2010 the ESCOSA announced it was undertaking a work program on issues relating to economic regulation of water service in South Australia. A Statement of Issues would be published in early December 2010. **Link**

Tasmania

Office of the Tasmanian Energy Regulator (OTTER)

2011 Aurora Pay-As-You-Go Price Comparison (APAYG) Report

In November 2010 the OTTER published its fifth APAYG Price Comparison Report that compares APAYG rates effective from 1 January 2011 with the standard regulated tariffs available for residential customers as at 1 December 2010. **Link**

Proposed Amendment of Performance and Information Reporting Guideline

In November 2010 the OTTER proposed to amend the **Electricity Supply Industry Performance and Information Reporting Guideline** to include a section for wind generation. Submissions were due by 17 December 2010. **Link**

Pricing Approvals

On 19 November 2010 the OTTER approved Aurora Energy's retail tariffs for the period 1 December 2010 to 30 June 2011. **Link**

Reliability Review

The OTTER's Reliability Review is a high-level review of the performance of the electricity supply industry in terms of the reliability of the integrated Tasmanian power system. It identifies and analyses the issues that are likely to influence the future reliability of the power system in the medium term (the next three to five years) having regard to the actual and prospective impact on end-users. A Reliability Review Draft Report was issued in October 2010, and comments on this were required by 3 December 2010. **Link**

Price Regulation for Water and Sewerage

On 21 November 2010, as requested by the Treasurer, the OTTER provided updated advice on the review of the Water and Sewerage Interim Price Order. The water and sewerage reform program provides for the introduction of independent price regulation for the sector from 1 July 2012. **Link**

Electricity Retail Competition

In November 2010 the OTTER announced its development of a website to provide information to customers about retail competition in electricity. **Link**

2010 Frequency Control Ancillary Services Investigation

In November 2010 the OTTER announced that it was conducting an investigation into the pricing policies of Hydro Tasmania in respect of raise contingency frequency control ancillary services (FCAS) to meet the Tasmanian local requirement. The investigation will lead to a determination, by the OTTER, that regulates the prices that may be charged by, and specifies the price control mechanisms imposed on, Hydro Tasmania for these services. The investigation was to be completed by 17 December 2010, with the release of the Regulator's Final Report. **Link**

Victoria

Essential Services Commission (ESC)

Smart Meters Regulatory Review – Capacity Control and Verifying Bills

On 13 December 2010 the ESC released an Issues Paper to commence a review of matters regarding capacity control and bill verification which the ESC believes require further consultation. Background: In March 2010, the ESC commenced a review of energy regulatory instruments in respect of dealings with electricity customers with smart meters. In September 2010 the ESC decided to reinforce obligations on electricity distributors and retailers for the state-wide implementation of advanced electricity interval metering, or smart meters. Submissions are due on the Issues Paper by 4 February 2011. **Link**

Trade Waste Customer Service Code Development

The ESC is developing a trade waste customer service code for the Victorian water businesses to address matters such as discharge acceptance criteria, pricing principles and dispute resolution and arbitration. The Department of Sustainability and Environment's trade waste review report recommended the ESC take on this role. Feedback was due 30 November 2010. (The ESC already regulates trade waste pricing.) The pricing determination for the current regulatory period ends 30 June 2013. **Link**

Western Australia

Economic Regulation Authority (ERA)

Invitation for Public Submissions – New Facilities Investment Test Application for Connection of Collgar Windfarm

On 13 December 2010 the ERA announced that it is seeking public comment on an application from Western Power to include an amount of new facilities investment associated with connecting the Collgar Windfarm into its regulated asset base (referred to as a 'new facilities investment'). The works are estimated to cost $21.7 million and involve the

construction of Collgar Terminal Substation and associated works for the connection of the windfarm. The ERA has prepared an issues paper to assist interested parties prepare submissions, which are required by 29 December 2010. **Link**

Invitation for Public Submissions – 2010 Annual Wholesale Electricity Market Report to the Minister for Energy

The ERA has a dual obligation to report annually to the Minister for Energy on the effectiveness of the Wholesale Electricity Market (WEM), one under the *Electricity Industry Act 2004* and the other under the *Wholesale Electricity Market Rules*, and it has decided to incorporate the two reporting requirements into the one report. Nine public submissions have already been received in response to the ERA's Discussion Paper. On 6 December 2010 the ERA invited any further submissions, by 11 January 2011, on the extent to which the WEM objectives have been or are being achieved. **Link**

Estimating the Debt Risk Premium

On 1 December 2010, the ERA announced the release of a discussion paper intended to present its proposed future method for calculating the debt risk premium in its regulatory roles, and also when undertaking inquiries referred to the ERA by the State Government. The ERA has two gas pipeline decisions in the near future: the Final Decision on WAGN's revised access arrangement and the Draft Decision on Dampier Bunbury Pipeline's revised access arrangement. The ERA is also about to issue the Draft Report for the inquiry into the Funding Arrangements of Horizon Power. Subject to feedback on this discussion paper, required by 7 January 2011, it is the intention of the ERA to use this proposed method for these decisions or recommendations. **Link**

New Facilities Investment Test Application for Transmission Works to Supply the Binningup Desalination Plant

On 12 November 2010 the ERA announced that it was seeking public comment on an application from Western Power for a new facilities investment test assessment on its proposal to undertake transmission works to supply electricity to the Binningup Desalination Plant. The transmission works are estimated to cost $52.63 million and involve the installation of a second 330/132 kV transformer at Kemerton Terminal and construction of a 132 kV transmission line to connect the desalination plant. The ERA prepared an issues paper to assist interested parties prepare submissions, which were due by 26 November 2010. **Link**

WestNet Rail – Overpayment Rules and Costing Principles

On 6 October 2010 the ERA announced it was seeking public comment by 2 November 2010 on the revised Overpayment Rules and Costing Principles proposed by railway owner WestNet Rail for its railway network. **Link**

Notes on Interesting Decisions

New Zealand: Commerce Commission Assumes Responsibility for Requesting or Approving Electricity Grid Upgrade Plan Proposals by Transpower

In December 2009 the New Zealand Government's Cabinet agreed to a number of changes to the governance of the electricity industry. These changes include disestablishing the Electricity Commission and spreading its functions among existing agencies and the new Electricity Authority.

The changes to the governance of the electricity industry are set out in the Electricity Industry Act 2010. For example, approval of grid-upgrade plans was once part of the Electricity Commission's role. However, from 1 November 2010 the New Zealand Commerce Commission (NZCC) assumes responsibility for requesting or approving proposals for electricity grid upgrades by Transpower New Zealand Limited. Transpower uses grid-upgrade plans to seek regulatory approval for investment proposals to upgrade the high-voltage transmission network, or the national grid.

For the 12 months from 1 November 2010 the NZCC will use the existing electricity governance rules and grid-investment test to request or approve Transpower's grid-upgrade plan proposals. During this time, the NZCC will also develop a capital expenditure input methodology to assess and approve Transpower's capital expenditure proposals. This input methodology is to be determined no later than 1 November 2011. The Minister of Commerce can extend this deadline once by up to three months at the written request of the NZCC.

The NZCC has been working with the Ministry of Economic Development, the Electricity Commission, the Electricity Authority Establishment Board and Transpower to ensure that there is a smooth transfer of responsibilities and no interruption to Transpower's grid upgrade planning processes. The NZCC will be working with Transpower on a continuing basis to ensure the efficient assessment of Transpower grid upgrade plan proposals.

Grid update plan proposals and related documents will be published on the NZCC's website at: **Link**.

Canadian Transportation Agency (CTA) Concludes First Stage of Review of Cost of Capital Methodology

The Canadian Transportation Agency (CTA) is conducting a comprehensive review of its cost of capital method, used in a range of statutory and regulatory applications in relation to federally-regulated railway companies. The existing approach is based on principles established in three previous CTA decisions – in 1985, 1997 and 2004. The review, which commenced in 2009, is being conducted in two stages, with the assistance of the Brattle Group. The terms of reference specify criteria relating to reasonableness ('fair and reasonable' return; transparency; minimising use of judgemental factors), reliability (auditable; consistent; robust) and pragmatism (readily available information; simple to implement; compatible with regulatory context and legislative requirements). The CTA has recently concluded the study phase of the review of its cost of capital method and will now start the hearing phase.

In the first (study) phase of this review, the CTA commissioned an expert independent study of methods that might be suitable for determining the cost of capital rates for federally-regulated railway companies in Canada. The final report of the study, prepared by the Brattle Group and titled *Review of Regulatory Cost of Capital Methodologies*, is now complete. Interested parties have been invited to comment on it.

In the second phase, a Panel has been appointed to determine if there is a method that is clearly superior to the CTA's existing cost of capital method, or if there are improvements that would clearly improve it. The Panel will consider the Brattle Group's final report and any comments submitted about it, in addition to considering evidence submitted from interested parties about the existing methodology or possible alternatives. After this examination, the Panel will determine the appropriate cost of capital method that the CTA will use for, at a minimum, the next five-year period. The CTA is now calling for submissions on the appropriate method to determine the cost of capital. Submissions are due by 31 January 2011.

South Australia: 2010-11 Potable Water and Sewerage Pricing Processes Inquiry

The South Australian Treasurer referred to the Essential Services Commission of South Australia (ESCOSA) an Inquiry into 2010-11 Potable Water and Sewerage Pricing Processes. In undertaking the Inquiry, the ESCOSA considers information provided to Cabinet and the document 'Transparency Statement – Part A – 2010-11 Potable Water and Sewerage Prices South Australia' dated May 2010. The Cabinet decision led to an average increase in potable water charges of 21.7 per cent in real terms. Metropolitan and regional sewerage charges increased by 0.8 per cent and 1.3 per cent, respectively, in real terms.

The Inquiry focuses on the application of certain pricing principles enunciated by the Council of Australian Governments (CoAG) as well as through the National Water Initiative (NWI) in 2004. The underlying intent of these principles is to improve the efficiency of the provision and use of water services, for the benefit of the wider community.

The 2010-11 Transparency Statement outlines the factors considered by the Government in setting the prices.

The ESCOSA has finalised its Inquiry into the process that led to Cabinet's decision on SA Water's potable water and sewerage charges to apply in 2010-11. The increase in 2010-11 potable water charges follows a 17.9 per cent increase in water charges (in real terms) in 2009-10. The major driver of the announced increases are the costs associated with the Government's projects and initiatives aimed at providing South Australian customers with a sustainable and secure water supply in the longer terms, which include the construction and expansion in capacity of the Adelaide Desalination Plant at Port Stanvac; the implementation of the Network Water Security Program, designed to improve the connectivity between the northern and southern water supply systems; purchases of River Murray water, ensuring a sufficient quantity of water is available for critical human needs; and the provision of rebates, designed to encourage the public to use water conservation products.

The magnitude of the costs associated with the Government's projects and initiatives, and the resulting increases in potable water charges, provided an important context to the current Inquiry and, according to ESCOSA, accentuates the need to ensure that the pricing process is robust and is capable of meeting the NWI pricing principles.

Consistent with the approach taken in previous inquiries, the ESCOSA has identified the types of improvements that should be made to the pricing process in order to achieve greater consistency with the relevant pricing principles. The ESCOSA notes that there have been a number of improvements in the 2010-11 price-setting process, for example, expanded discussion in the areas of planning, approval and procurement processes for capital expenditure. However, many of the suggested areas for improvement are similar to those raised by the ESCOSA in previous inquiries. In particular, the ESCOSA has raised concerns with the lack of information presented to Cabinet to demonstrate that forward-looking prices are based on prudent and efficient forecast costs. The ESCOSA argues that this deficiency is particularly significant, given the impact of the proposed major capital projects on future water prices.

The Final Report (which forms Part B of the Transparency Statement) was released by the South Australian Government on Thursday 25 November 2010. At the same time, the Government released its response (Part C of the Transparency Statement) to the ESCOSA's Final Report. A number of issues raised in this Inquiry will be addressed in the transition to independent economic regulation, in accordance with the new regulatory arrangement announced in the South Australian Government's *Water for Good Plan*.

Regulatory News

2011 ACCC Regulatory Conference

The 2011 ACCC/AER Regulatory Conference will be held at the Sofitel Hotel, Brisbane on Thursday 28 and Friday 29 July 2011. Conference planning is well underway. There are similarities in the structure of the conferences over the years. There will be break-out sessions for energy, communications, water, transport (airport regulation), finance and, of course, the legal session has come to be an accepted part of a conference on the economics of regulation. For the 2011 conference we are trying to make the sessions more interactive in the sense of chasing down different ideas and better understanding the reasons why some of our eminent economists take different views. In this spirit the conference will start with a session chaired by Stephen Littlechild, ***Is 'cost-of-service plus incentives' the best that we can do?,*** and the panel will include some of our most experienced international regulatory economists. More details to follow. *Network* readers will be alerted when the completed program is published on the ACCC website and the registration process commences.

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